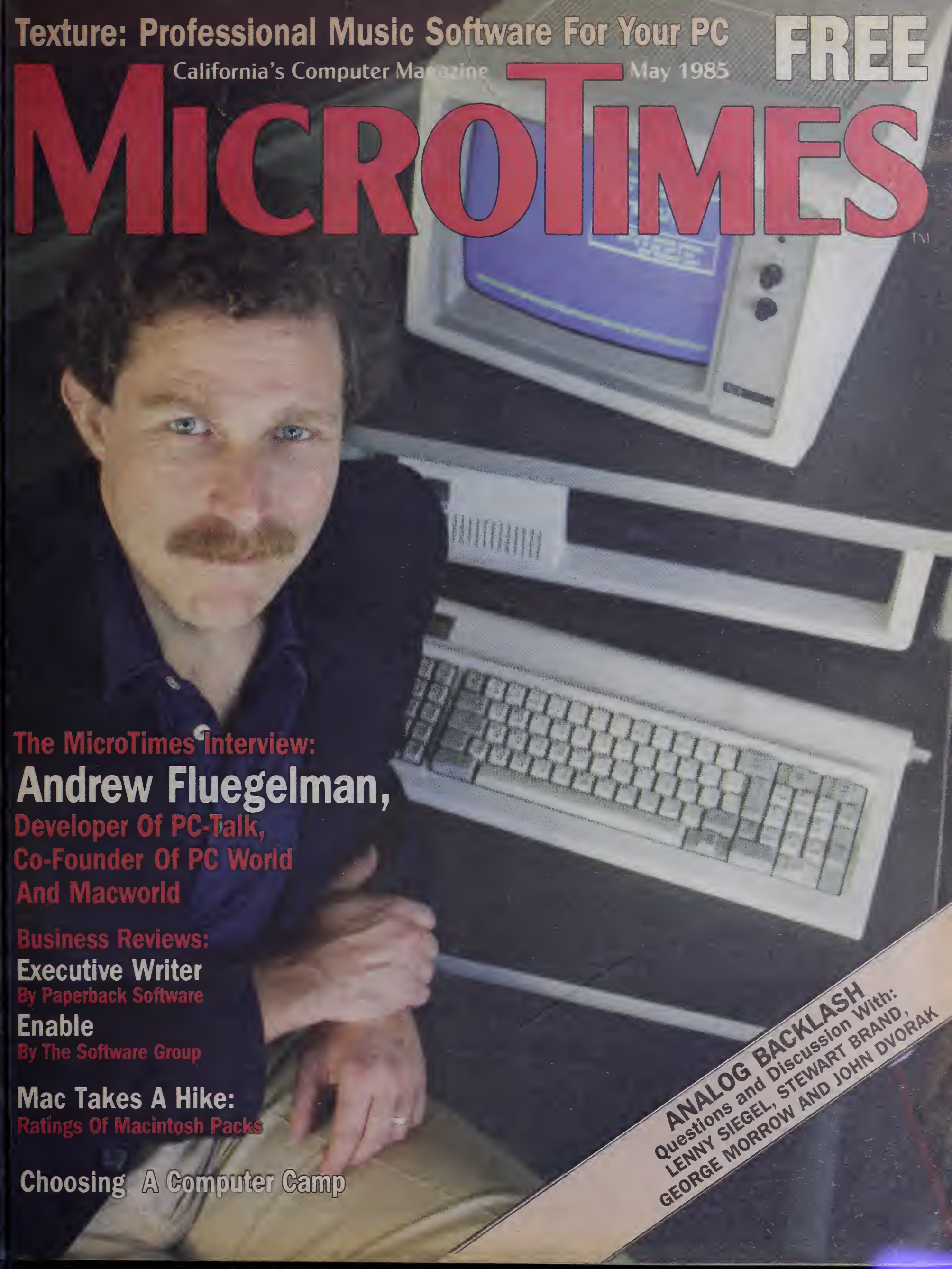
Texture: Professional Music Software For Your PC

FREE

California's Computer Magazine May 1985

MicroTimes™



The MicroTimes Interview:

Andrew Fluegelman,

Developer Of PC-Talk,
Co-Founder Of PC World
And Macworld

Business Reviews:

Executive Writer
By Paperback Software

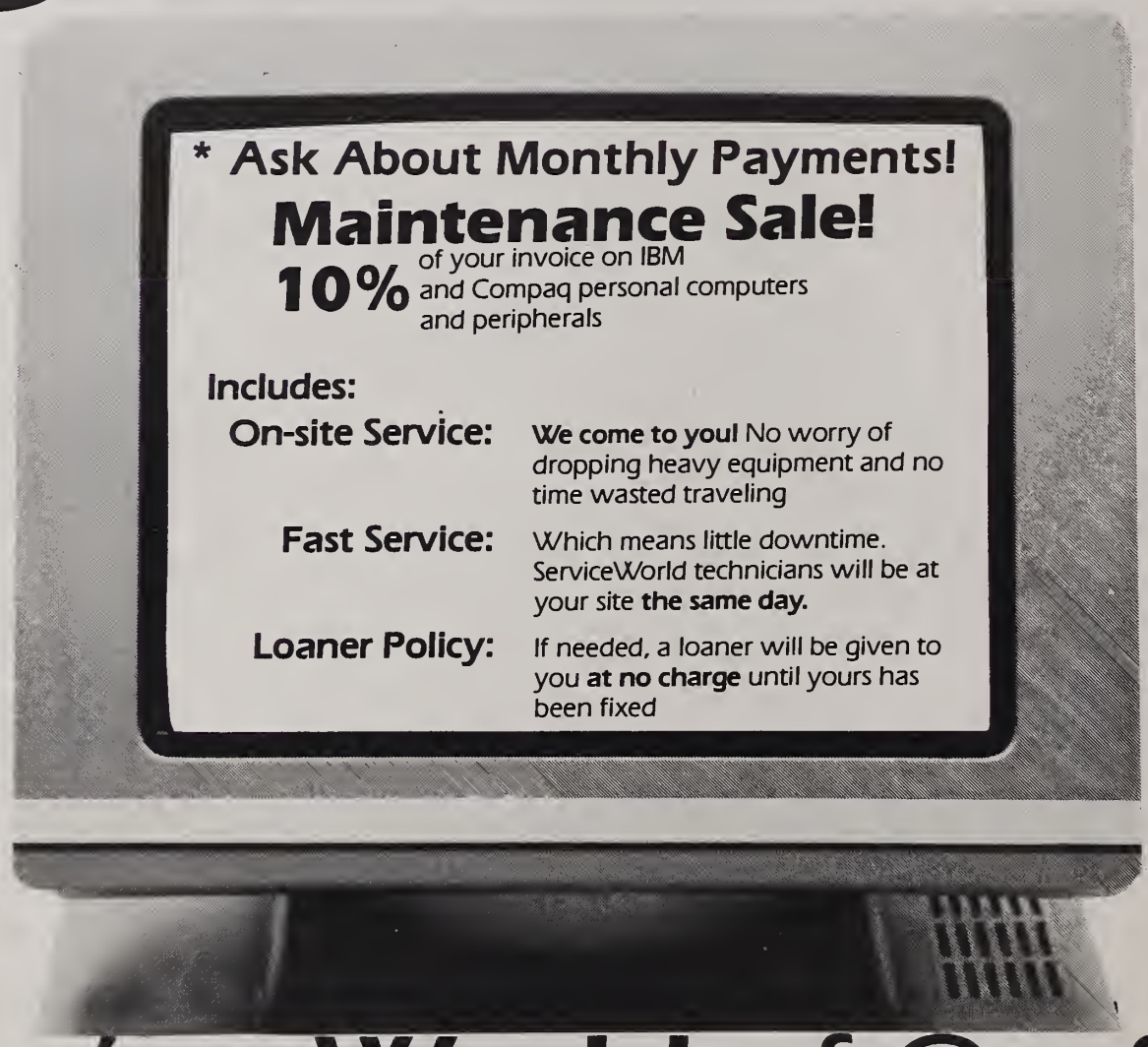
Enable
By The Software Group

Mac Takes A Hike:
Ratings Of Macintosh Packs

Choosing A Computer Camp

ANALOG BACKLASH
Questions and Discussion With:
LENNY SIEGEL, STEWART BRAND,
GEORGE MORROW AND JOHN DVORAK

ServiceWORLD


* Ask About Monthly Payments!
Maintenance Sale!
10% of your invoice on IBM and Compaq personal computers and peripherals
Includes:
On-site Service: We come to you! No worry of dropping heavy equipment and no time wasted traveling
Fast Service: Which means little downtime. ServiceWorld technicians will be at your site the same day.
Loaner Policy: If needed, a loaner will be given to you at no charge until yours has been fixed

There's a **World** of On-Site Service at **ServiceWorld Inc.**

415-788-6580

Call us for competitive price quotes on all Computerland, Businessland and other computer retailer prices

* For Multi PC Customer Only

*Computerland and Businessland are registered trademarks

Delivers....

64K Upgrades Special $29.95

includes **free delivery** and **installation** 192K minimum

Upgrade your Compaq Deskpro

$19.95 with 256K chip

Transtector surge protectors

$99.95 Every system needs one. Don't wait until it's too late

UPGRADE YOUR IBM or COMPAQ PERSONAL COMPUTERS

Make your PC have the power of an XT by adding a hard disk

only $899

ServiceWorld Inc.

ServiceWorld
55 Francisco St. #2
S.F., CA

"Some companies service the land,
WE WILL SERVICE
YOUR WORLD"

CONTENTS

Andrew Fluegelman. Photo: f. Stop Fitzgerald *See Page 32*

This month's cover story features an interview with Andrew Fluegelman, co-founder of *PC World* and *Macworld* magazines and developer of the popular telecommunications program *PC-Talk*. Not bad for someone who'd never touched a computer as recently as 1981, but then Fluegelman isn't one to rest comfortably on past accomplishments. The conversation ranges from Fluegelman's initiation into the computer world to his reflections on the current scene to ideas for future development, all of which shows some perspectives we hope you'll find interesting.

Also in the interesting-perspective department, we've excerpted some of the proceedings from a conference at the recent West Coast Computer Faire. The conference, entitled "Computers: Panacea Or Poison?," dealt with the impact (mundane and futuristic) of computers on our present and future lives, and provided an excellent forum for some distinctly opinionated statements. We've christened this piece "The Analog Backlash," after one of the possible scenarios described in the discussion.

Other stories this time include advice on choosing a computer camp for your child this summer or picking a case for carrying around your Macintosh, a report on the recent activities of Utopia musicians Todd Rundgren and Roger Powell in the computer world, and a visit with Gail Harris, who convinced the management of ComputerLand that computer training could be a profitable business, and now has a thriving concern in the Training Works operation.

Last, but certainly not least, for all you Jina Bacarr/*Sweet Savage Byte* fans, our intrepid heroine is temporarily surrounded by fire-breathing dragons, but expects to have them dispatched with her customary wit and charm and be back with us next month.

Clockwise from upper left: John Dvorak, Lenny Siegel, Stewart Brand, George Morrow. Photos: K. Gypsy Zaboroskie *See Page 48*

FEATURES

Log On, Camp Out: Choosing A Computer Camp 23
By Vanessa Schnatmeier
A survey of computer camps, and advice on how to select the one best suited to your child.

Andrew Fluegelman: *PC-Talk* And Beyond 32
By Dennis Erokan and Mary Eisenhart
The creator of *PC-Talk*, co-founder of *Macworld* and *PC World*, and developer of the Freeware marketing concept talks about adventures past, present and future.

Gail Harris: Pioneering People-Oriented Computer Training 42
By Tim Tyler
The story of a bright and enterprising woman who convinced the powers-that-be of ComputerLand that computer training could be profitable, and now has the successful Training Works to prove it.

The Analog Backlash—And Other Pitfalls Of The Computer Age 48
Excerpts from a conference at the West Coast Computer Faire, entitled "Computers: Panacea Or Poison?"

Roger Powell's *Texture*: A Professional Music Software Package For Your PC 56
By Benjamin Krepack
An interview with keyboardist Roger Powell, who supplements his activities with Utopia by designing musical software; also, a visit with Todd Rundgren, whose lifelong fascination with computers led indirectly to his band Utopia's most recent album cover — designed on a Macintosh.

Mac Takes A Hike *By Ken Goehner* 60
One of the more unexpected spinoffs from the popularity of Macintosh is a burgeoning industry for the production of Mac carrying cases. This article surveys some of the best packs — and issues dire warnings on what to avoid.

DEPARTMENTS

Edit Mode *By Don Hamilton* 8
Business Reviews 16
Reviews 64
Classifieds 74
User Group Notes *By Mary Eisenhart* 78
Retail/Service News 84

Cover Photo: f. Stop Fitzgerald

SUPER SAVER SPECIALS

Nec Elf Printer Letter Quality 399.95

IIe 80 Column with 64K 69.95

Toshiba P 1340 120 cps/55 cps 589.95

Panasonic 1091 120 cps/40 cps NLQ 299.95

10 Meg Drive w/Controller Formatted & Installed 675.95

dBase III Special 349.95

SOFTWARE

ALS

List Handler	59.95
Spell Handler	49.95
Word Handler	59.95

ArtSci

Magicalc	99.00
Magicwindow II	109.95
Magicwords	59.95
Magic Office	219.00

Beagle Bros.

Alpha Plot	29.95
Dos Boss Utility	20.95
Double Take	29.95
Utility City	24.95
Apple Mechanic	24.95
Pronto Dos	23.95
Tip Disk Utility	16.95
Beagle Bag	25.95

Broderbund Software

Bank Street Writer	49.95
Bank Street Speller	49.00
The Print Shop	34.00
Dazzle Draw	47.95

Borland

Sidekick	43.95
Turbo Pascal (8087)	39.00/79.00

Central Point

Copy II Mac	30.00
Copy II Plus	29.95

Microsoft Apple

Multiplan	149.95
Applesoft Compiler	149.95

Microsoft IBM

Chart	189.95
Word	264.95
Word with Mouse	329.95

Microsoft Mac

Chart	89.95
File	139.95
Basic	110.05
Multiplan	139.95
Word	139.95

Simon and Shuster

Typing Tutor II	34.95
Typing Tutor III	34.95

Communications Software

Hayes Smartcom Apple	79.95
Hayes Smartcom IBM	99.95
Hayes Terminal Program	64.95
ASCII Express	94.95

Accounting Software

Open Systems, any module	495.95

HARDWARE

IBM

MegaPak w/ 256K	499.95
MegaPak w/ 128K	219.95
MegaPak w/ 256K Clk/Ser	499.95
MegaPak w/ 64K Clk/Ser	289.95
MegaPlus II Parallel Kit	39.95
MegaPlus II Serial Kit	39.95
Six Pak Plus Game Port	39.95
Six Pak Plus w/ 64K Ram	269.95
Monograph w/ text/graphics	459.95

Apple

Magicphone from ArtSci	149.95
Video Term	215.00
Ultra Term	289.00
Saturn 128K Card	329.00
Saturn 64K Card	229.00
Color II	145.00
Grappler Plus	119.00
Buffered Grappler Plus	179.00
Taxan RGB Interface	99.00
Apricot Serial Card	88.00
View Max 80	129.00
View Max 80 w/ 64K	215.00
Apple IIe 80 Col/64K	99.00

Versacard — Four in One:

Serial • Parallel • Real Time Clock Calendar • BSR Port

Special	159.95

ALS Products

CPM Card w/ 64K	253.00
Add Ram (16K)	59.95
Printer Mate	49.95
Dispatcher	89.95
Z-Engine	119.00
Smarterm II	119.00

DISK DRIVES

For Apple IIc IIe, II+	174.95
Micro/Sci IIc, IIe, II+	195.95
3½" External Drive for Mac	Call for Pricing
10 Meg Hard Drive for Apple	Call for Pricing

PRINTERS

Star Micronics

- Supports Full Line Graphics
- Traction and Friction Feed Included
- Switch Selectable for NLQ 30/40/50 cps
- Optional Serial Interface

SD10 2K / 160 cps	369.95
SD15 16K / 160 cps	489.95
SG10 2K / 120 cps	238.95
SG15 16K / 120 cps	419.95
SR10 2K / 200 cps	539.95
SR15 16K / 200 cps	649.95
Juki 6100 (LQ)	399.95
Nec Elf (LQ)	399.95

Panasonic

- Both Traction and Friction Feed
- One Year Guarantee
- 2 Million Character Ribbon

P1090 10" 100 cps	249.95
P1091 10" 120 cps	319.95
P1092 10" 180 cps	439.95
P1093 15" 160 cps	619.95

Brother Letter Quality

Brother HR15	349.95
Brother HR 25	630.00

MONITORS

Amber 12"	99.95
Green 12"	99.95
Taxan Green	125.95
Taxan Amber	137.95
Taxan Hi/Res RGB	495.95
Sakata composite color 13"	249.95
Polo Hi/Res RGB IBM	359.95
Tecknika RGB/Comp/Separate Video	349.95

ACCESSORIES

Apple II

Mach II Joystick	34.95
Mach III w/ Fire button	39.95

Apple IIe

Mach II Joystick	34.95
Mach III w/ Fire button	39.95
Select-a-Port	34.95
Saver Fan (surge protected)	39.95
Floppy Diskettes ds/dd	14.95
Diskettes ds/dd w/ order	12.95
Flip and File—holds 50	17.95
Disk Bank—holds 50	10.95
THE MAX	
4 outlets w/ surge protection	62.95
6 outlets w/ surge prot	64.95
WE HAVE RIBBONS!	Call for Pricing

MODEMS

Promodem 1200	299.95
Promodem IIc	324.95
Promodem 1200 Mac	339.95
Promodem 1200 A plug in	319.95
IBM 1200B plug in w/ software	289.95
IBM 1200 B no software	239.95
Smartmodem 1200	419.95
Smartmodem 1200B	399.95
Micromodem IIe	224.95
Zoom IIe II+ plug in w/ software	139.95

MEDIA

Sony 3½ (10)	35.95
Maxell 3½ (10)	35.95
Centron 5¼ (10)	15.95
Generic (10)	13.95

IBM O-K Ram Cards 89.95

Data Products 8010 180 cps/90/30 Tractor & Friction 399.95

Apple Power Supply 52 W 57.95

20 Meg Hard Drive for IBM Formatted & Installed 859.95

Printer Stands 80 Col 16.00 120 Col 18.25

Disk Banks Holds 50 5½ Diskettes 10.49

REPAIR! REPAIR!

SCG Computer Goods is truly a full service computer store. We have a fully staffed. modern test and repair facility. We offer fast turnaround and the lowest labor rates in town. Call (415) 796-5950 today.

WIN A FREE MODEM!

Name our electronic shopping bulletin board. Call (415) 793-8799 for details. 300/1200/2400 baud 24 hours a day.

MAIL ORDER

Can't visit our store? We have hundreds of items available! We will ship your order to you. In California call toll free 800-423-4415. No surcharge on bank card charges. We do not charge your bank card until we ship.

MacINTOSH UPGRADES

We can upgrade your lean MAC to a fat MAC. Our upgrade service is guaranteed to be 100% software and hardware compatible, and comes with a full 90 day warranty.

279.95

COMPUTER GOODS

est 1981

the mail order specialists

700 Mowry Ave., Fremont, CA 94536

415-791-7091

VISA MasterCard

MON. – FRI. 10 A.M. to 8 P.M.
SAT. 10 A.M. – 5 P.M.

Century Plaza Shopping Center
(across the street from Dolan's Lumber)

The salesman said a 12-year-old could set it up.

But you're 35.

You got a real deal. A big-name computer. State-of-the-art software and peripherals. All at a price they said "may never be this low again."

Unfortunately, the bargain ended when you walked out the door. And discovered that you were on your own.

Too bad you didn't come to Entré instead.

At Entré, we're with you every step of the way. So we not only help you choose the right computer for your business, but we also install it. Ourselves.

And that's just the beginning. We train you and your people. We give you service when you need it. And we're always available for questions and advice.

So before you go looking for a computer, look for your local Entré Computer Center. We're with you every step of the way.

ENTRÉ COMPUTER CENTER®

We're with you every step of the way.

One Mission Street
San Francisco, CA 94105

(415) 543-7111

© 1985 Entre Computer Centers Inc

MICROTIMES

California's Computer Magazine

Editor-in-chief
Don Hamilton

Managing Editor
Kim Nelson

Associate Editor
Pat Hamilton

Assistant Editor
Mary Eisenhart

Designer
Suzanne Unger

Game Editor
Michael Markowitz

Contributing Editors
Jina Bacarr, John Gresham, Pamela Pescara, Jeff Spurrier

Contributing Writers
Holly Alix, Matthew Berry, Gordon Bruce, Bruce Cannelongo, Joe Celko, Larry Clark, Randy Dennis, Bennett Falk, Ken Goehner, Walter Grams, Dave Johnson, Rose Johnson, Michael Murphy, Noboru Nazuka, Doug Pencille, Ed Shurtleff, Karen M. Sullivan, Diana Woodworth

Contributing Photographers
Richard McCaffrey, Ann Summa

BAM PUBLICATIONS, INC.

Publisher
Dennis Erokan

Associate Publisher
Miles Hurwitz

Assistant to the Publisher
Julie Alexander

Advertising Director
Joe Amadeo

Assistant to the Advertising Director
Carol Priest

National Account Representative
Steven Gellman

Assistant Advertising Directors
Jeff Rosenfield (Los Angeles)
Chuck Stanley (San Francisco)

Advertising & Promotion
Suzin Coleman, Barry Green, John Lockhart (Sr. Acct. Rep.), Betsy Reaves, Carolyn Schwartz, Jane Shepherd, Steve Shoemaker, Jon Yoffie

National Rep: **Los Angeles, Carol Oppenheimer**

Advertising Assistants
Maria Beal (San Francisco)
Deni St. Clair (Los Angeles)

Art Director
Lee Ann Nelson

Assistant Art Director
Jarice Kirkendoll

Art Staff
Elizabeth Drabkin, Johnnye-Paulette Jones, William Salit

Typesetting
The Typesetting Shop

Office Manager
Barbara Lewit

Accounting
Steven Engelfried

Production & Distribution Manager
John Erokan

Assistant Traffic Manager
Bryan Stafford

Distribution Staff
Rand Crook, Bruce Fraser, Frank Grygus, Ron Herschewe, Art Holland, Eliot Kleinberg, Kirk Lanier, David Perea, Tony Pintacura, Bill Smith, Joseph Rafalo. Racks by Free Distribution

This Vol. 2. No. 5, May 1985, Whole No. 9 MicroTimes, California's Computer Magazine, is published by BAM Publications, Inc., 5951 Canning St., Oakland, CA 94609. Phone (415) 652-3810. Los Angeles Office, 1800 N. Highland, Suite 220, Hollywood, CA 90028. Phone (213) 467-7878.

MicroTimes™ is © 1985 by BAM Publications, Inc. Subscriptions rate: 12 issues, $12. All rights reserved. Reproduction in whole or in part without permission of Publisher is strictly prohibited. Unsolicited material is gratefully accepted, but we can't be responsible for returning it unless it is accompanied by a stamped, self-addressed envelope. The staff and management of MicroTimes do not advocate or encourage the use of any product or service advertised herein for illegal purposes.

1000'S TO CHOOSE FROM • 1000'S IN STOCK!

Join Our Savings Club*

EVERYTHING FOR THE OFFICE • WE BEAT EVERYBODY • ONE STOP SHOPPING

YOU MUST BRING IN AD TO GET THESE PRICES • WE TAKE TRADE-INS *Extra Savings on Future Purchases

MicroTimes Special

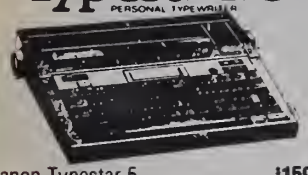
ROYAL Printing Calculators

$39.95 Value **$9.88!**

Mention MicroTimes W/Purchase

TYPEWRITERS!

Typestar 5 PERSONAL TYPEWRITER



Canon Typestar 5	$159.88
Sharp PA1000	229.88
Canon Typestar 6	229.88
TOWA EX77	399.88
Swintec 1146CMP	539.88
Swintec Collegiate **$100 bonus**	399.88

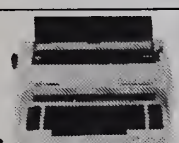
100's of miscellaneous electric typewriters from $69.88

MUST SELL - NEW, USED, DEMOS

Supplies/Accessories

We have the cables, the converters, the interfaces, print cards, the daisy wheels, the tractor feeds, and cut sheet feeders, the printer stands, keyboards, the carrying cases, the covers, stands, memories, pads, ribbons, buffers for **all** the machines!

OLYMPIA



Olympia Printers

ESW 100 daisy wheel	$199.88
NP (dot matrix) super!	299.88
RO D/W	299.88
ESW 102 (heavy duty deluxe)	349.88

(heavy duty deluxe, wide carriage)

Olympia Typewriters:

Orbit P (15 features)	$199.88
Electronic Portable	259.88
Report Electronic	329.88
Orbit XP (parallel int)	299.88
Compact (serial int)	389.88
Compact 2	379.88
Orbin/Int	499.88

Supplies/Accessories

HOT PRINTERS!

Star 10X	$208.88
Epson RX80	205.88
SG10	218.88
Silver Reed	249.88
TOWA Print EX	299.88
Qume LP20	449.88
Star SD15	439.88
Star SG15	379.88
Star Radix-15	989.88
Juki 6300	689.88
Okidata 92P	345.88
Epson LQ 1500	989.88
HP Printers	all models
Toshiba	all models
Dynex	all models

MANY OTHERS

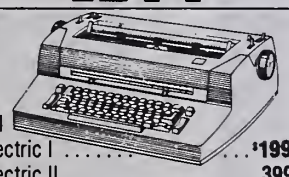
Supplies/Accessories

ROYAL Typewriters

Beta 200 Electronic	$179.88
Beta 2001	229.88
Beta 8100	359.88
Beta 8200	429.88
410	499.88
Beta 9000	499.88

Supplies/Accessories

IBM®



IBM Selectric I	$199.88
Selectric II	399.88
Selectric II w/correction	599.88
Selectric II , New	699.88
Selectric III , New	769.88
Remington Ball	379.88

Supplies/Accessories

CASH REGISTERS

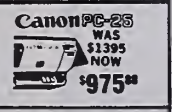
Sharp 1016	$159.88
Sharp 1050	229.88
Royal Dix	229.88
Maxl	199.88
Casio	169.88

Supplies/Accessories

HOT PRICES! COPIERS!

Canon PC-10 Was $999 NOW $495.88

Canon PC-20 WAS $1095 NOW $689.88



Canon PC-25 WAS $1395 NOW $975.88

SHARP 756

Automatic Exposure Free Setup & 8,000 Copies

WAS $1795 NOW $999.88

SHARP 760

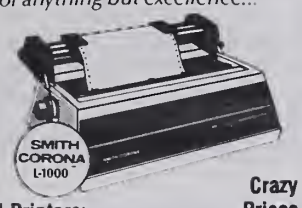
Auto Exposure Free Setup & 8,000 copies Reduction mode

WAS $2595 NOW $1599.88

Specials on cartridges & accessories

SCM SMITH-CORONA

For those who won't settle for anything but excellence...



SCM Printers:	Crazy Prices
D100 Matrix	$199.88
L1000 D/W (was 395)	239.88
D200 Matrix	369.88
D300 Matrix	479.88
SCM Typewriters:	
UltraSonic 3M	$319.88
SCM 450 (memory)	369.88
Typetronic 3 (heavy-duty)	499.88

Supplies/Accessories

brother

Brother Printers:	
HR15	$338.88
HR15XL	338.88
HR25	579.88
HR35	779.88
EP44	227.88
Brother Typewriters:	
CE25	$199.88
CE50	279.88
CE60	329.88
CE65 deluxe	349.88
CE58/memory	429.88
CE70/memory	499.88

LOW BALL

Supplies/Accessories

CALCULATORS

Super Deluxe, Heavy Duty We have 1,000's of calculators at the best prices!

Here are a few examples:

Heavy Duty Olympia 19.88	Sanyo 2250 79.88
Sharp PD 11611 29.88	Olympia Deluxe 99.88
Royal 1017 49.88	Sharp 2604 134.88
Sharp 1625 59.88	Victor A-50 199.88
Sharp 1197 69.88	Many Others Ask About Extra 10% Off

SILVER-REED

The EX-43

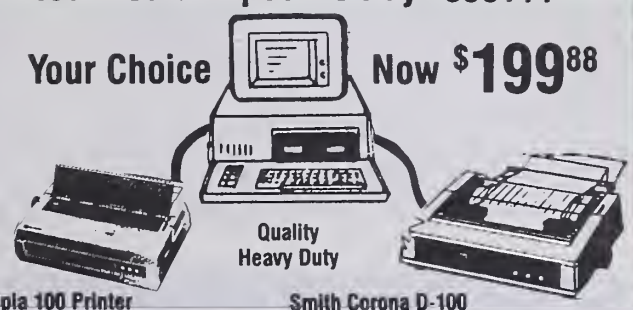
- 10,12,15 Pitch
- Second Keyboard
- Interfaceable
- 6K Memory

$100 FREE GOODS with purchase

$299 was $495.00

You Would Expect To Pay $399...

Your Choice Now $199.88



Quality Heavy Duty

Olympia 100 Printer

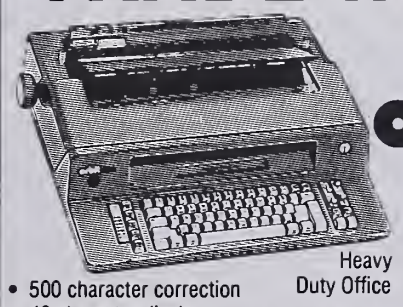
- Comes in centronics
- 16 CPS
- Daisy Wheel
- Heavy Duty

Smith Corona D-100

- Speed: 120 characters per second
- Friction feed/tractor feed
- Graphics capability
- Six pitches

Or Call For Other Printer Deals

TRADE-IN SALE



Heavy Duty Office

- 500 character correction
- 40 character display
- 4k memory with optional 8k upgrade
- Automatic bold, expand and double print
- Interfaceable • Like star type
- Fast
- Quiet
- Economical

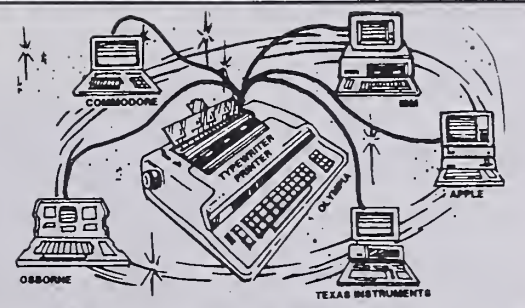
*Your old working electric or electronic typewriter

Olympia orbit dm ELECTRONIC MEMORY TYPEWRITER WITH DISPLAY

$899.88

-300.00*

$599.88



Computer Ready Typewriter/Printer with Interface

Sharp/Int	$339.88	Olympia Serial/Int	389.88
Brother 50/Int	429.88	Olympia Orbit/Int	499.88
Brother 60/Int	459.88	TOWA EX77/Int	399.88
Brother 65/Int	469.88	Smith Corona Typetronic 3/Int	599.88
Olivetti P-30/Int	299.88	Royal 8200/Int	469.88
Olivetti P-35/Int	349.88	IBM Selectric II/Int	699.88
Olivetti P41/Int	399.88	Silver Reed EX43	399.88

We have many others. Need just the Interface? Call.

CORPORATE DISCOUNTS

THE COMPUTER INTERFACE SPECIALISTS

Specializing in dealer, department store, mail order and premium sale. All offers limited. Call or come in for details. Cash, credit card, check or money order. We ship UPS—add $5.00 for handling.

PHONE ORDERS WELCOME

master charge VISA

OEM INC

323 Allerton Ave.
S. San Francisco, CA 94080
(415) 872-6668

HOURS
M-F 9-5 Sat 10-5 Thurs til 9

OEM INC

Mary El Center 984 W. El Camino
Real @ Mary Sunnyvale, CA
(408) 730-1184

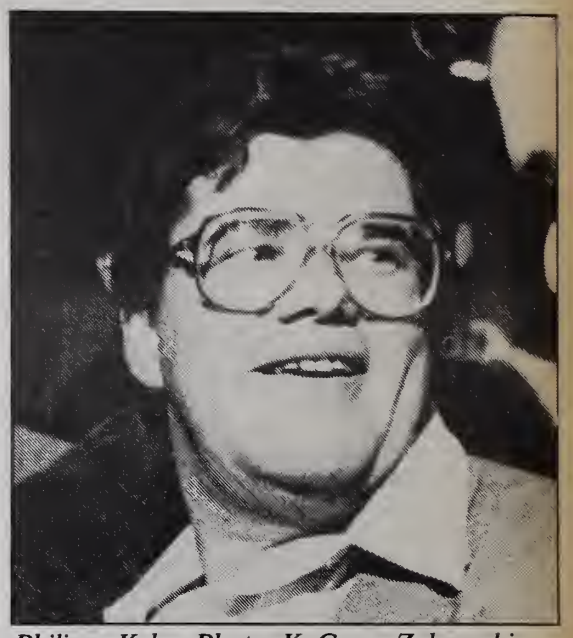
HOURS
M-F 9-6 Sat 10-5 Thurs til 9

Licensing: The Key To Business Software Success?

According to *The Wall Street Journal* recently, the U.S. Air Force found that it was *not* exactly as easy as 1-2-3 to license 7000 copies of the *1-2-3* program from Lotus Development. It would seem that, no matter how big your purchase or how honest your intent, you will find it almost impossible to license popular computer software.

This may be a bit shortsighted on the part of software developers. It would seem to me that a good licensing/marketing strategy could help a spreadsheet or word processing company to rise to the top of the heap in the contest for office domination. A lot of companies will be buying office automation equipment this year, most of which will include these two basic functions; a significant factor in the company's decision will quite likely be the fact that users of spreadsheet and w.p. programs tend to prefer the system they initially learned on. Further, when the company looks at new systems, it is likely to prefer the new, updated version of the package already in use rather than taking on the monumental task of installing and learning a completely new system.

Realistically, it's hard to find a reviewer who will look at a new program with enough effort and objectivity to discover whether or not it's as great as its manufacturers claim. When the office guru is sent out into the computer store to find a new wordprocessor, he or she is very likely to come back with an improved version of the familiar system. Failing that, many companies are just learning to find the most productive systems for their needs, and are likely to buy the most popular package on the theory that anything that popular *has* to be good.



Philippe Kahn. Photo: K. Gypsy Zaboroskie.

AST And Borland's Joint Venture

AST Research and Borland International are teaming up to bring you what Borland founder Philippe Kahn describes as "a product of pigs," that being his chosen phrase to convey the notion that if the best board maker and the best-selling business software get together, the result is going to be the best product available. The first offering is promising: the AST Six Pak Plus will be combined with Borland's *Sidekick* (version 1.5, non-copy-protected and retailing for $84.95). The strategy seems to be to maintain the price of the board at $395 for the 64K version while offering a combined product that's so good it can compete with low cost boards.

AST has already done $60 million in sales in the first half of this fiscal year, compared to a yearlong total of $60 million last year. Borland is also growing at a phenomenal rate and, according to Kahn, attaining sales figures of $2 million per month. *Sidekick* has already sold 200,000 copies independently and Six Pak Plus 400,000, with current sales of the board estimated at 35-40,000 per month.

What this marriage may mean, if Kahn has his way, is spreadsheets that take advantage of 2Mb of RAM. If this team holds, the product of two first-class companies could be great indeed.

WHY Pay More?...

Computer Sales At Its BEST. . .

Save 15% - 50%

"BEST SELLERS"

COMPUTERS — LIST PRICE — SALE PRICE
CALL FOR OTHER CONFIGURATIONS NOT SHOWN

IBM PC SPECIAL

$2049

256 KB, 2 disk drives
monochrome board / par. port
Green / Amber monitor

IBM PC 256K w/Keyboard Two OSDD 360K Drives Hercules Color Graphic Card Printer Adapter and Polo Hi-Res 12 RGB Color Monitor	3789	2399
IBM PC 640K with AST SIX PAK Keyboard Two OSDD 360K Drives Hercules Graphic Card Two Printer Adapters, Serial Adapter Clock/Calendar and Princeton MAX-12 Amber Monitor	3895	2649
IBM XT with 256K Memory One 360K Floppy Drive 10 MB Hard disk Monochrome/Printer Adapter and HI-RES Monochrome IBM Monitor	4920	3795
FOR ENHANCING YOUR AT WE INSTALL		
CMI 20 MB HO	1595	995
CMI 40 MB HO	2395	1495
SAME DRIVE IBM USES IN AT!!		
HARD DISC SPECIAL Add 10 MB HARD DISK for any configuration (DOS 2.10 compatible)	1195	655

PRINTERS

PANASONIC KX-P1090	349	219
PANASONIC KX-P1091	449	299
PANASONIC KX-P1092	599	389
PANASONIC KX-P1093	899	575

"NEW" STAR MICRONICS PRINTERS

Star Micronics SG-10	299	259
Star Micronics SG-15	499	409
Star Micronics SO-10	449	385
Star Micronics SR-10	649	529

PRINTERS — CALL FOR OTHER PRINTERS NOT SHOWN

	LIST PRICE	SALE PRICE
BROTHER HR-35/36 CPS	1245	894
OYNAX DX-15 XL 1B CPS	595	399
DAISY WRITER 2000	1495	949
DIABLO 630 SERIAL (SPECIAL)	2340	1149
EPSON RX-80 FT	369	319
EPSON FX-80 FT/PLUS (160 CPS)	599	429
EPSON FX-100 FT/PLUS (160 CPS)	895	609
EPSON 7 Colors JX-80 (160 CPS)	799	549
EPSON LQ 1500 (220CPS)	1395	1119
ANY OTHER EPSON MODEL AVAILABLE		**CALL**
IBM Quietwriter (40CPS)	1395	1249
JUKI Model 6100	599	399
JUKI Model 6300	995	749
NEC Model 2050	950	699
NEC P2 Series	799	565
NEC P3 Series	1150	799
NEC Model 3550/IBM	1495	1095
OKIDATA 92	599	375
OKIDATA 93 (629 w/IBM PLAT)	799	595
QUME SPRINT 1155	1995	1498
TOSHIBA Model 1340	795	595
TOSHIBA Model 1351	1895	1249
SWINTEC Typewriter/Printer 1146CMP	**599**	**499**
SWINTEC 1186 CMP	699	589
SWINTEC 8000 (GSA approved)	799	699

APPLE MACINTOSH

CORVUS HARD DISK 11 MB	2495	1975
IOMEGA BERNOULLI BOX 5 MB	1895	1425
DOLLARS 0 SENSE	150	119
HABA SYSTEMS HABADEX	200	159
MICROSOFT Basic Interpreter	150	122
MICROSOFT CHART	125	99
MICROSOFT MULTIPLAN	195	144
MICROSOFT WORD	195	148
PROMODEM MAC PAC	599	399
TECMAR HARD DISK 10 MB	1995	1599
TECMAR 5 MB Removable	2295	1695
THINK TANK	145	119

IBM PC JR

QUAD 128K RAM BOARD	295	199
QUADRAM Expansion Chassis	695	545
LOTUS 1-2-3	495	349
MULTIPLAN	195	159
WORDSTAR by MICROPRO	195	149
TECMAR PCJR CAPTAIN 128K	395	309

SURGE PROTECTION ACCESSORIES

XT 130W Power Supply	199	159
MASTER PIECE Power Center	149	119
PTI Datashield B/U Power 200 Watts	359	305
Power Surge Protectors	90/60	75/49

MODEMS — CALL FOR OTHER MODEMS NOT SHOWN

	LIST PRICE	SALE PRICE
ANCHOR MARK XII MODEM	399	259
VENTEL PC HALF CARD	549	439
VENTEL 1200 PLUS	499	399
HAYES SMARTMODEM 1200	599	429
HAYES SMARTMODEM 1200B	549	359
PROMODEM 1200	495	369
PROMODEM MAC PAC	599	399
PROMODEM APPLE 11C	549	369
MICROSTUF CROSSTALK XVI (SFT)	195	109

MONITORS

AMDEK Color 700 Monitor	699	499
PRINCETON HX-12	695	469
PRINCETON MAX 12	275	189
POLO RGB Color Monitor	599	399
TAXAN HI RES 122 (IBM)	230	159
TAXAN 420 COLOR/GREEN	699	419

CALL FOR OTHER MONITORS NOT SHOWN

DISK DRIVES

20 MB ½ HI HO Complete SPECIAL	1595	995
BERNOULLI BOX 20 MB	3695	2795
CMI 20 MB HD for IBM AT	1595	1099
CMI 40 MB HO for IBM AT	2395	1495
SAME DRIVE IBM USES IN AT!!		
DAVONG 10 MB STAND ALONE	2395	1795
CORVUS OMNI NET ALL MODELS		**CALL**
HARD DISK 10 MB ½ HEIGHT IBM	1195	799
SUNOL SYSTEMS 9 to 92 MB HARD DISK W/TAPE BACK-UP FOR MAC O IBM		
CALL FOR SUPER LOW PRICES		
TALLGRASS TG 5025	3495	2895
TANDON 10 MB WINCHESTER	1895	1199
TEAC ½ HEIGHT 360 KB	399	124

IBM BOARDS

AST 6 PAK w/64 K	**395**	**259**
AST ADVANTAGE, FOR AT SPECIAL	595	479
HERCULES GRAPHIC CARD	499	319
NEW HERCULES COLOR CARD	245	169
QUADBOARD II 64 SPC	395	269
PARADISE MODULAR GRAPHICS	395	299
TECMAR CAPTAIN 64K	395	225
TECMAR GRAPHICS MASTER	695	499
64 K RAM MEMORY TESTED	100	24

SOFTWARE

WE CARRY SOFTWARE FOR MOST MICRO COMPUTERS ON THE MARKET. CALL US.

(NEW) ASHTON TATE DBASE III	695	365
LOTUS 1-2-3	495	309
LOTUS/SYMPHONY	695	419
FRAMEWORK	695	359
MULTIMATE	495	265
BORLAND SIDEKICK	55	42
MICROPRO NEW WORDSTAR 2000	495	285
WORDSTAR 2000 PLUS	695	315
SAMNA WORD III	550	299

WE INSTALL SYSTEMS AND PROVIDE TRAINING. CALL FOR DETAILS

OUR POLICY • We accept VISA Mastercard Money Orders Certified & Cashiers Checks, Personal Checks, Wired Funds • We do not charge your card until we ship • **OUR PRICES REFLECT CASH DISCOUNT.**

SHIPPING (U.S.) Call for shipping charges Blue label and Next Day Air available

NOW IN OUR 4TH YEAR OF BUSINESS

We Sell Over 6000 Hardware & Software Micro Products

CALL US FOR YOUR DISCOUNT PRICE ON ANY PRODUCT YOU NEED

Call Between 9:00 a.m. and 5:00 p.m., Monday thru Friday

MasterCard VISA

MICRO WORLD

415-945-0937

631 Tarrytown Court, Walnut Creek, CA 94598
TELEX 559268 Answerback MICROWORLD
EASYLINK MBX 62786537

Member Chamber of Commerce, Listed Dun & Bradstreet

All Brands are Registered Trademarks

SANYO · PLANTRONICS · QUME · NEC · TECMAR · EPSON · OKIDATA · HERCULES · GD · MICROSOFT · Tandon · Citoh · QUADRAM · TAXAN · J-SCI · CORVUS · AST · Apple · EAGLE · ASHTON-TATE · COLUMBIA · Hayes · corona · AMDEK

Repeat Computer Customers

According to *The Wall Street Journal*, if you already own a computer you are four times more likely than a non-owner to purchase a computer this year. Twenty per cent of the households in America now have a computer, and about half of the computers sold this year will be sold to the same 20%. Once we're sold, we're really sold.

Mac Affects Office Equipment

GEM, from Digital Research Inc., is going to make a lot of IBMs into Macintoshes. If you haven't seen or used GEM yet, you should; even the hardcore Mac haters have been converting slowly but surely. People who were heard a year ago declaring that the Mac had no redeeming value have been changing their tune and using GEM on their IBMs.

GEM continues the process of office simplification started by Apple. As novice users demand increasingly powerful yet easy-to-use equipment, and as training costs (and re-training costs) continue to climb, offices are being forced to use simpler equipment.

GEM is cheap and simple to use; its documentation is thorough and well-done. As new office communication systems become more prevalent, GEM will be a godsend to novices and the company training account; as many offices are discovering to their cost, a system that's installed with a great flurry of activity and then, several months later, isn't being used because it's too complicated, turns out to be a poor investment.

Contact Digital Research Inc. at 60 Garden Court, P.O. Box DRI, Monterey, CA 93942 for more information, or call (408) 649-3896.

Electronic Arts Is Looking For A Few Good Ideas

You might think that Electronic Arts, with such winners as *Archon*, *Music Construction Set*, *Adventure Construction Set*, and (on the more pragmatic side) *Cut and Paste* and *Get Organized* in its product line, would have become smug and content to rest on its laurels. Such, however, is not the case: according to Terrylynn Pearson of EA, the company is always on the lookout for good, innovative new products, at any stage of development — ideas, prototypes, or programs.

The company's software line supports IBM, Apple, Atari, and Commodore, and covers a wide spectrum of applications from business to education to games. "Our emphasis," says Pearson, "is on a complete range of home computer software: entertainment, education, home productivity, and creativity."

If you've come up with something great that you think might be EA's next success story, contact the company at Electronic Arts, 2755 Campus Drive, San Mateo, CA 94403. Inquiries should be directed to the attention of Chris James.

— ME

PCjr Update

The national bestseller *In Search Of Excellence* describes IBM as an astute company whose closeness to its market has enabled it to find its potential mistakes *before* they reach the public. Well, even the giant stumbles once in awhile; IBM recently announced that it was dropping the PCjr from its line due to lack of market response.

Still, if you just bought a PCjr, don't panic. Your machine is a long way from becoming either a white elephant or a collector's item. IBM sold over a quarter million of the machines, which translates to a lot of software being available now and in the foreseeable future.

IBM still has as many PCjrs unsold as sold, though. I don't think I'd rush out and buy one just now, but on the other hand I wouldn't panic if I owned one. The PCjr sold more pieces than some of the best-selling computers in history.

IN RECEIVING

Ballblazer And *Rescue On Fractalus*

These great games from Lucasfilm had a few birthing problems, but they've finally arrived. Don't miss them if you have an Atari; they are a *must* for all Atari owners. Epyx presents these games in your local software store.

Data Mate

(408) 270-5081

Premium Quality Diskettes

What You Get!

Box of 10	
SSDD	
1-5	$13.99
6-10	$12.99
DSDD	
1-5	$15.99
6-10	$14.99

Bulk	SS	DD
10-50	$1.29	$1.49
51-100	$1.19	$1.34

includes Tyvek sleeve & tabs

Same Day Shipping

- "Certified" diskettes from national manufacturer. Meets 150% of ANSI specifications
- I.B.M. standard jacket
- Quality glue seal for added protection
- Reinforced hub ring
- High grade Tyvek sleeve
- Label kit and Write protect tabs (box)
- Lifetime replacement guarantee
- Same day shipping of your order to your door

Order Form

Make checks or money orders payable to:

DATA MATE
P.O. Box 90550
San Jose, CA 95109
(408) 270-5081

Quantity	Price	Quantity	Price
SS - 1-5 boxes	$13.99		
SS - 5-10 boxes	$12.99		
DS - 1-5 boxes	$15.99		
DS - 5-10 boxes	$14.99		
Bulk SS			
Bulk DS			
		Subtotal	
		Tax 6.5 %	
		Shipping	FREE
		Total	

COD orders add $1.90

Company/Name _____
Address _____
City _____ State _____ Zip _____
Phone _____

Pathwords

Pathwords is a game for up to four players. The object is to link adjacent letters to create words from a random pattern. The pattern contains 109 characters and is roughly diamond-shaped. Players try to obtain the longest words possible using high value letters such as Q and Z. The game is somewhat like the old up-down-sideways word search games.

Each new play and each new game generate new random letters to select from. The game also has time limits on each turn. Fortunately.

I am looking forward to the review of this product. This game can be played on an Apple II+/IIe/IIc. The publisher is CBS Software. Check your local stores.

Filevision

Filevision allows you to structure your filing system to look like the real world. You can display information about an object in the picture by pointing to it. You can select a group of objects that have common characteristics. You can change a picture based upon information. You can produce reports of selected information. You can print drawings with items of interest emphasized.

To use *Filevision*, you draw a picture and add information about it. Drawing tools and editing capabilities help you do this easily. Without a doubt, a very interesting product.

Filevision is published by Telos Software Products, 3420 Ocean Park Blvd., Santa Monica, CA 90405.

Total Project Manager

The *Harvard Total Project Manager (HTPM)* is a comprehensive business software tool for managers and professionals. *HTPM* appears to have everything a project manager would need, including a tutorial on how to manage projects. *HTPM* includes Gantt, Pert, critical path activities, report writing, and many other features. The program appears to be a very powerful too; it is serious enough to require 384K of memory. *HTPM* runs on the IBM PC, XT, AT, and PC-compatibles.

HTPM is published by Harvard Software Inc., 521 Great Road, Littleton, MA 01460. Phone (617) 486-8431.

1st Base

1st Base is a file handling and report writing system for the Macintosh. With *1st Base*, you can use the mouse to create your own file designs, edit data, sort on multiple fields, and produce reports from single or joined files. The system also allows you to total columns and subtotal. You can produce statistical summaries and compute with IF...THEN... ELSE logic statements. Reports can be saved and merged with *MacPaint* and *MacWrite*. The package includes one disk and a manual which is over 100 pages long, but seems easy to comprehend.

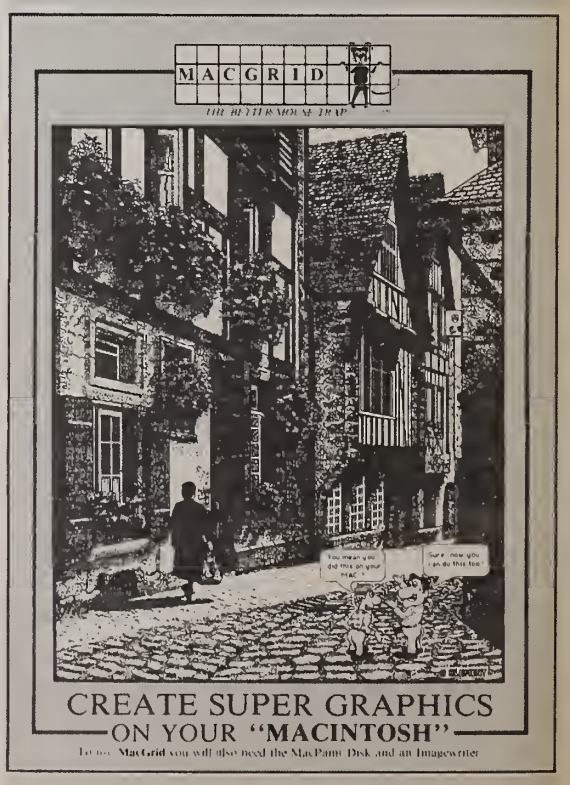
1st Base is from Desktop Software Corporation, 244 Wall Street CN-5287, Princeton, NJ 08540. DeskTop's phone number is (609) 924-7111.

MacGrid: Graphics Aid For Macintosh

MacGrid is designed for those who love *MacPaint* but are having trouble using the mouse for fine detailed work. The package consists of a grid which, superimposed on the Mac's screen, allows the user to break up the drawing surface into small areas for more precise work. MacGrid also includes a tutorial disk, and requires that the user already have not only the Mac itself, but *MacPaint* and an Imagewriter.

MacGrid is manufacturered and marketed by Diablo Valley Design, 4103 Hidden Valley Road, Lafayette, CA 94549, (415) 283-1082.

— ME



STARSTRUCK INDUSTRIES

MAIL ORDER

QUALITY DISCOUNT PERIPHERALS

SPECIAL DISCOUNT

The Booklet "Using Lotus 1 2 3" . . . $20

SOFTWARE

☐ Lotus 123	$265
☐ Symphony	400
☐ Wordstar Pro-Pack	245
☐ Wordstar 2000	260
☐ Wordstar 2000 plus	300
☐ Super Calc III	230
☐ Super Calc II	125
☐ dBase III	340
☐ dBase II	245
☐ Multimate	260
☐ Framework	350
☐ Copywrite II (backs up all IBM software)	45
☐ O-Disk Software (permits C Drive to boot all popular software independent of system disk)	75
☐ Home Accountant	95
☐ DOS 2.1	60
☐ DOS 3.0	70
☐ Crosstalk	125
☐ Smartcom II	100
☐ Sideways	45
☐ Multiplan	140
☐ 1 2 3 Upgrade Kits	125

HARDWARE

☐ AST 6-Pac 64K	$245
☐ AST Mega Plus II 64K	255
☐ Hercules Mono Card	290
☐ Plantronics Color Plus	340
☐ Quadram 384K	235
☐ IBM Color Card	225
☐ 64K RAM Chips (one set)	24
☐ Hayes Modem External	425
☐ Hayes Modem Internal	350
☐ Hayes Micromodem IIE	224
☐ Volks Modem 300	65
☐ 8087 IBM Math Processor Chip	145
☐ Teac Disk Drive 360K DS/DD	110
☐ IBM Disk Drive 360K DS/DD	165

DISKETTES

☐ Dysan SS/DD box	$21
☐ Dysan DS/DD box	30
☐ Verbatim Datalife SS/DD box	15
☐ Verbatim Datalife DS/DD box	23
☐ TDK SS/DD box	20
☐ TDK DS/DD box	25
☐ Maxell SS/DD box	18
☐ Maxell DS/DD box	21

TERMS
1) Add $5.00 for shipping and handling
2) Add 6.5% sales tax for California orders
3) Specify system manufacturer when ordering
4) Allow 5 days for delivery

STARSTRUCK INDUSTRIES

P.O. Box 710202 • San Jose, CA 95171

(408) 244-3114

HOW TO BUY SOFTWARE WHEN ALL THE ADS LOOK THE SAME.

We know it's hard to choose a software house. All the ads say the same thing—"Lowest prices," "fastest delivery," "best support," "biggest inventory."

Trouble is, although the claims are the same, the companies are very different. Which is why we want you to know some important facts about *us:*

1. 800-SOFTWARE is one of the oldest and most reputable firms in the industry. Our customers include Coca-Cola, GE, Hewlett-Packard, Xerox, AT&T, and thousands of other satisfied buyers.

2. Our National Accounts Program offers volume discounts and valuable services to large software users. We offer *incredibly* low prices on large bids!

3. We have a giant, $1,000,000 inventory. Which means we can offer next-day delivery if needed.

4. With every product you get friendly, expert technical support. Have a question? You'll be glad you bought from 800-SOFTWARE!

5. We'll match our competitors' prices on most products. We *never* cut service.

6. We never charge extra for credit card purchases, nor do we process for payment until the product is shipped. (Our competitors don't make this claim!)

7. You'll automatically receive our Technical Support Newsletter—a great way to stay up-to-date.

8. We are members of the Better Business Bureau and the Direct Marketing Association.

9. We want your business. *And* your repeat business. Which is why we work so hard to keep you happy. Give us a call and let us *prove* it!

CHECK OUT ALL OUR INCREDIBLE PRICES:

Wordstar 2000/2000 Plus CALL	**PFS File/Graph/Write** $84	**Okidata 92/93** $389/$629	**Epson Printers** CALL
RBase 4000 $259	**SuperCalc 2/3** CALL	**Hercules Color/Graphic Card** $199/$325	**IUS Accounting** $299/mod.

SOFTWARE				HARDWARE, ETC	
BORLAND SOFTWARE™		**MICRORIM™** RBase 4000	$259	**AMDEK™ Monitors**	CALL
Sidekick	CALL	**MICROSOFT®**		**AST™ Products**	CALL
Turbo Pascal/8087	$39/$79	Multiplan	$125	**ATI™ & COEX™ TRAINING**	CALL
BOURBAKI™	$ 79	Fortran	$269	**COOE-A-PHONE** Tel-A-Modem	$479
DECISION RESOURCES®		All Other Products	CALL	**EPSON™ PRINTERS**	
Chartmaster	$249	**MICROSTUF™ Crosstalk**	$ 95	FX 80, FX 100 & LQ 1500	CALL
Signmaster	$189	**MULTIMATE™**	$255	**HAYES™**	
DIGITAL RESEARCH™	CALL	**ROSESOFT™ Pro Key**	$ 99	Smartmodems 1200/1200B	CALL
FOX & GELLER™	CALL	**SOFTWARE PUBLISHERS™**		**HERCULES™**	
FUNK SOFTWARE™ Sideways	$ 49	PFS File/Graph/Write	$ 84	Color Card	$199
HARVARD SOFTWARE™		PFS Report	$ 75	Graphic Card	$325
Harvard Project Manager	$289	**SORCIM/IUS™**		**MAXELL™ & MEMOREX™ DISKETTES**	CALL
IMSI™ PC Paintbrush	$ 99	SuperCalc 2/3	$159/$195	**MEMORY CHIPS**	CALL
LIFEBOAT LATTICE C-COMPILER™	$359	EasyWriter II System	$185	**OKIDATA™ PRINTERS**	
LIFETREE™ Volkswriter Deluxe	$179	IUS Easy Business Accounting	$299/mod.	92 IBM	$389
MICROPRO®		Super Project	$209	93 IBM	$629
WordStar	$209	All Other Products	CALL	**PRINCETON GRAPHICS™ MONITORS**	CALL
WordStar 2000/2000 Plus	CALL			**QUADRAM™**	CALL
WordStar Pro Package/P.P. Plus	$259/$359			**WESTERN UNION EASY LINK®**	FREE
InfoStar	CALL				
All Other Products	CALL				

WE ALSO CARRY HUNDREDS OF OTHER PRODUCTS FOR THE IBM-PC® AND COMPATIBLES, MACINTOSH®, APPLE II® AND CP/M®!

VISA MasterCard AMERICAN EXPRESS

800-SOFTWARE, INC.
940 Dwight Way
Berkeley, CA 94710

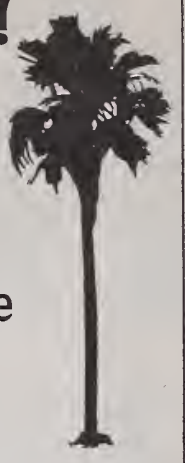
800-SOFTWARE

To order call toll-free:
800-227-4587 OR 415-644-3611

- Dealer inquiries welcome.
- Quantity discounts available through our National Accounts Program.
- Purchase orders accepted. Please call us in advance.
- Call for shipping charges. Overnight delivery available.
  We do not add surcharge for credit card purchases.
- Prices may change. Above prices are for IBM-PC and compatibles.
- International orders welcome:
  TELEX #751743 800 SOFTWARE UD.

© Copyright 1985, 800-Software, Inc.

Send your top Salesmen on a Greek Island Vacation!!



Are you planning an incentive travel bonus for some of your key employees?
Consider how valuable and enjoyable a vacation in Greece would be.
Call us—we make all the arrangements—we handle *all* the details!

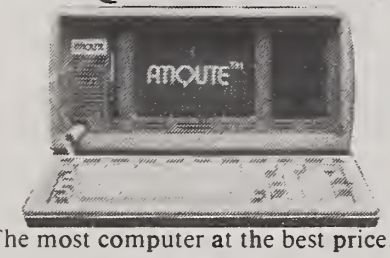
Ronnie Caragianis (617) 489-4877

CHECK US OUT!

Microcomputers and Peripherals

• Sales • Leasing • Consulting • Service Contracts

AMQUTE Portable



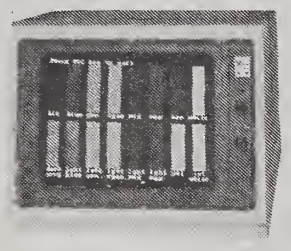
The most computer at the best price.

$1595

Bring Out Your Computer's True Colors

The Vidstar VC-100-1

- 12" Screen
- 640 x 500 interlaced
- .38mm dot pitch
- Affordable



Seeing is believing.

$359

IBM PC SYSTEMS

* 256KB, two DS/DD drives, Hercules Graphics/Printer Adapter, Taxan Green/Amber Display, DOS 2.10	* 640KB, two DS/DD drives, Hercules Graphics/Printer Adapter, Paradise multifunction board, PGS Max-12 Display, DOS 2.10	* 256KB, two DS/DD drives, Hercules Color/Printer Adapter, PGS HX-12 Color Display, DOS 2.10
$2125	**$2295**	**$3100**

Other PC configurations: Call for Pricing and Availability.

* IBM XT one DS/DD drive, 10MB .....$2,690 * IBM AT (Enhanced) $5,100
* All systems are configured and completely tested.

SOFTWARE

Wordstar 2000/plus	$299/329
Microsoft Word (2.00)	$249
Multimate	$269
Framework	$409
Digital Research (all)	35% off
Dbase II/III	$279/379
Print Boss	$24.95
Perfect Writer	$129

PRINTERS:

Epson FX 80/100	$389/549
Okidata ML 92/93	$359/579
Toshiba 1340/1351	$669/1179
Star SG-10/15	$249/399
NEC / Diablo	CALL
Brother DX-15	$379
Brother HR-25/35	$649/879

UPGRADES:

AST Sixpak w/64KB	$252
Paradise 5-pack	$175
Sigma Maximizer	$209
8087-3	$159
8087-2	$259
80287	$299
64K DRAM (set)	$24.95
Disk Drives:	
Tandon 100-2	$119
TEAC 55B	$109
Panasonic JA 551	$115

HARDWARE:

Hercules mono. Graphics	$315
IBM mono. Adapter	$229
Paradise Modular Graphics	$309
PC Peacock Color	$189
Hercules Color	$179
Tecmar Graphics Master	$489
Genoa Spectrum color/mono	$329
Plantronics Color	$379

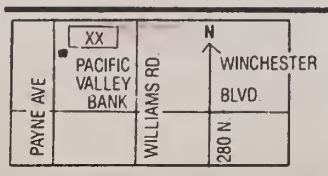
DISPLAYS:

PGS HX-12 Color	$439
PGS Max-12E	$179
Taxan Green/Amber	$139/149
Quimax Amber	$175
Amdek 310A	$169
Amdek 710 color	$579
Quadchrome color	$429

ACCESSORIES & SUPPLIES:

Masterpiece surge/swivel base	$109
Compugard CPP-12/120	$49/69
Verbatim DS/DD .....10 pack	$24.95
Verbatim SS/DD .....10 pack	$15.95
Diskbank (holds 50 disks)	$12.95
Power supply (130W)	$129
Generic Diskettes .....10 pack	$9.90
Hard Disk Kits:	
Microscience 10MB	$695
Cogito 10MB	$659
Nippon Periph	$729

COD cash prices subject to change w/o notice.



SAM & ASSOCIATES

1275 S. Winchester Blvd.
Suite # AA, (Behind Pacific Valley Bank)
San Jose, CA 95128 Tel: **(408) 984-6494**

EDIT MODE

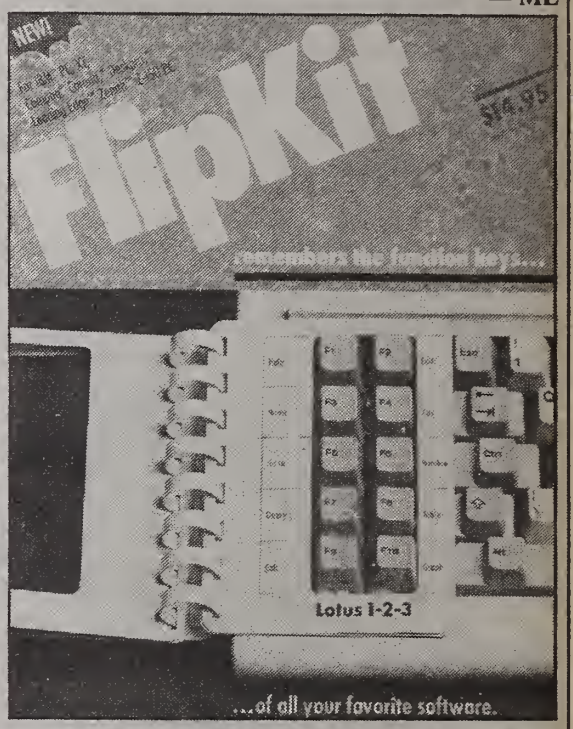
Help On The Way

Micro Direct International of Palo Alto has just the thing for you IBM-PC and compatible users who switch software a lot in the course of your work and have trouble keeping track of the function keys as you make the changes.

FlipKit is MDI's solution: a spiral-bound kit of overlays that attaches to the left side of the PC keyboard and lists the key functions opposite each numbered key. The kit includes overlays for *Framework*, *Lotus 1-2-3*, *Multiplan for IBM*, *Symphony*, *IBM Writing Assistant*, *Microsoft Word*, *Multimate*, *Pfs:write*, *Wordstar*, *Crosstalk XVI*, *dBase III*, *IBM Filing/Reporting Assistant*, *MS-DOS*, and *Thinktank*, plus several blank overlays so you can make your own charts for other software you may acquire.

FlipKit is available from selected retailers, or by mail from Micro Direct International, P.O. Box 61017, Palo Alto, CA 94306-1017. For phone inquiries, call (415) 325-3178. FlipKit sells for $14.95.

— ME



And Now For Something Completely Different. . .

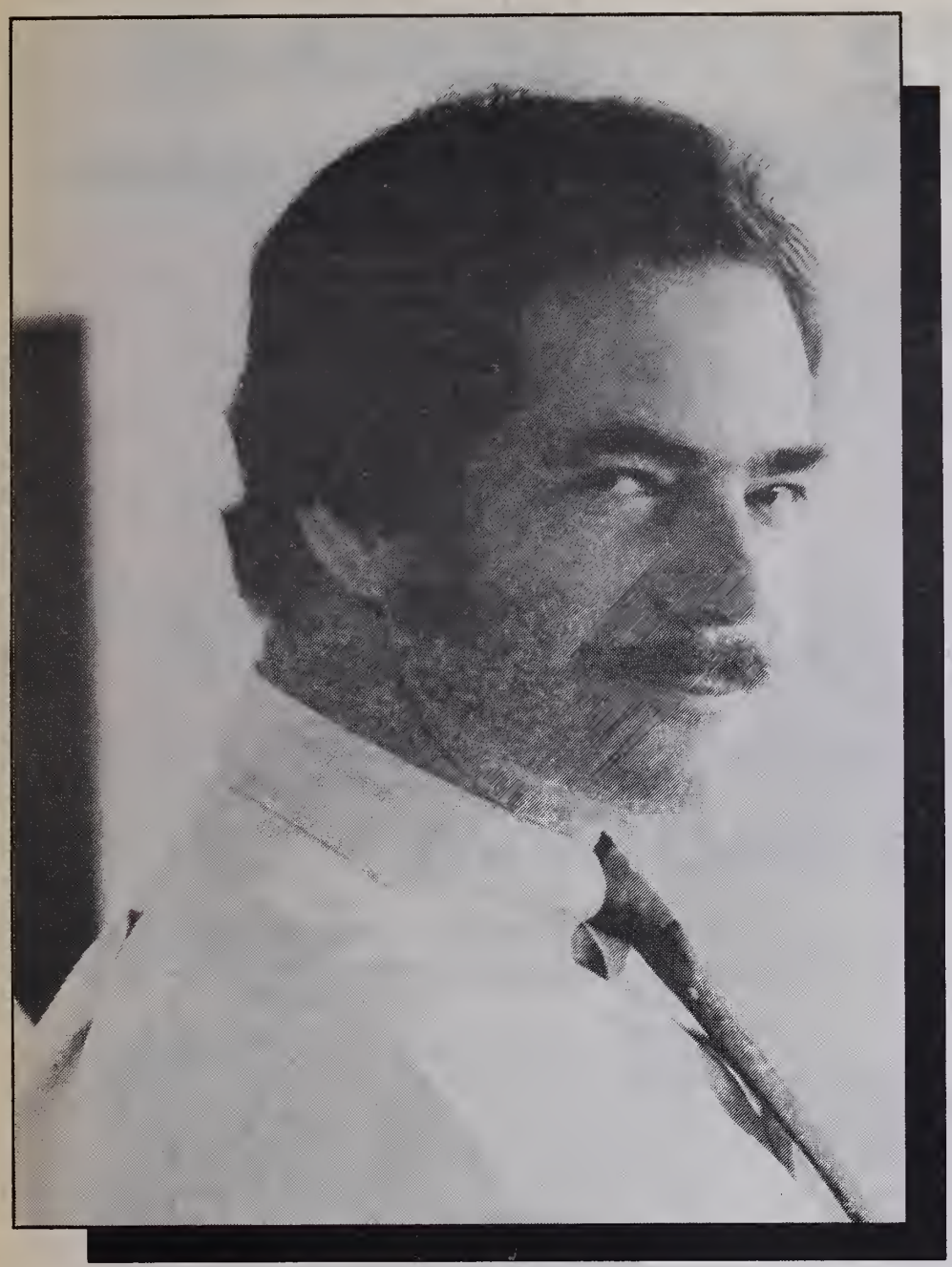
You saw it at the Computer Faire. You saw it at the San Francisco Film Festival. But just in case you missed it, it's not too late to get your very own copy of *The Lone Breaker*.

TLB is the first cartoon created on an Apple system, with a soundtrack created on a Yamaha DX7; the video was conceived and directed by Stephen Beck and the soundtrack, available in Dolby B stereo, was composed by Barry Fasman.

TLB chronicles the exploits of the Lone Breaker, who, like his horse-riding namesake, seems to specialize in wandering from town to town solving problems and smoothing out conflicts. While the Masked Man tended to use silver bullets as his weapon of choice, the Breaker simply shows up in town one day, finds himself in the midst of some unkindly-disposed parties, and immediately starts in with some state-of-the-art breakin' and poppin'. Needless to say, the adversaries are so astonished by this behavior that they join right in. This scenario is reenacted in a series of vignettes as the Breaker carries his campaign around the world and into outer space. One deathless scene features the Breaker (in matador guise) teaching a furiously snorting bull to do headspins.

The Lone Breaker features arcade-style graphics in full color and runs approximately 10 minutes. It is available in VHS or Beta format for $19.95 from Electron Video Creations, 41 Tunnel Road, Berkeley, CA 94705. phone (800) 227-2400, ext. 999, or (800) 772-2666, ext. 999.

— ME



I'm Adam Osborne. I want you to know that you no longer have to pay ridiculous prices for top quality software.

Yes, you can get full-featured word processing for under seventy dollars. So don't be fooled. The next time a sales person tells you an advanced word processor costs $400, he's either ignorant or putting his commission before your pocketbook.

Most software companies believe in *"perceived value pricing"*. If a software package saves you thousands of dollars, they argue, why shouldn't you pay hundreds for it—even though the program costs just a few dollars to produce. Based on that logic, a telephone should cost $500! After all, it saves you thousands in travel costs.

High software prices are currently maintained by a shaky coalition of software companies and some computer stores. **You've had no choice but to pay exorbitant prices whenever you bought software for your personal computer.**

I founded Paperback Software International to give you an alternative—Quality Software at Affordable Prices!

Ask for the Paperback Software alternative at your local bookshop, computer store, or software store. Or use the order form below.

NUMBER WORKS
The spreadsheet for budgeting, financial planning, expense reports, homework. Do *"what if?"* calculations, spot trends. 40 built-in math and finance functions. Spreadsheets can be as large as disk, not limited by memory like other programs. IBM PC w/128K, PCjr w/256K.

EXECUTIVE WRITER
Advanced word processing with word wrap, global search and replace, horizontal scrolling, centering and right justification, on-screen bold and underlining, headers, footers, footnotes, indices and tables of contents, macros, graphics. IBM PC w/128K, PCjr w/256K.

EXECUTIVE FILER
An electronic file cabinet. Keep anything you write organized and available at a keystroke. Combine with *Executive Writer* to switch between documents and filecards at a keystroke. Look up references. Do document assembly. Use *MailPrint* to generate form letters. IBM PC w/192K, PCjr w/256K.

DRAW-IT
Turns your computer into a full color electronic drawing board. Make pictures and illustrations, pie, bar, and line graphs, or just have fun! Easy-access help screens, simple commands, ready-to-use pictures and patterns. IBM PC w/128K, PCjr w/256K, color graphics card.

PAPERBACK WRITER
The affordable high-value word processor for everyday use. Easy-to-read instruction book makes you productive in minutes. Block operations, horizontal scrolling, word wrap, on-screen bold and underlining, search and replace. IBM PC w/128K, PCjr w/256K.

MY ABC's
Six educational games that are simple to learn and fun to play for preschoolers. They teach your child to recognize letters, count, and develop concentration skills. IBM PC/PCjr w/128K, color graphics card.

$39.95 NUMBER WORKS	$69.95 EXECUTIVE WRITER	$49.95 EXECUTIVE FILER	$29.95 DRAW-IT	$39.95 PAPERBACK WRITER	$19.95 MY ABC's
_____ copies: $ _____	_____ copies: $ _____	_____ copies: $ _____	_____ copies: $ _____	_____ copies: $ _____	_____ copies: $ _____

IBM is a registered trademark of International Business Machines Corp.

All products work on the IBM PC, PCjr, PC/XT, PC/AT and most compatible computers and require DOS version 2.00 or higher.

VISA MasterCard

Above total = _____
California residents add 6½% tax = _____
TOTAL = _____

☐ Check ☐ VISA ☐ MasterCard Card number _____

MC Bank number: _____ Expiration date: _____

Ship to: _____

Address: _____

City: _____ State: _____ Zip: _____

Signature: _____

Offer good in USA only. Allow 2-4 weeks for delivery. Free shipping. MT

Quality Software at Affordable Prices

Paperback Software
2612 Eighth Street
Berkeley, CA 94710

PAPERBACK SOFTWARE™

ZENITH | data systems

Go Beyond **COMPATIBILITY . . .**

Reach For **TOTAL PERFORMANCE!**

Profit from Zenith Data Systems Z-150 PC desktop begins with 16-bit IBM compatibility plus Zenith total performance . . .

$1895 COMPLETE SYSTEM

includes: 320K RAM, 640K expandability, dual drives, 4 open expansion slots, 80 column 12" monitor, 165 watt power supply, color board, parallel port, and software - MS-DOS 2.11, Microsoft's Word & Multiplan (word processing & spreadsheet)

With 640K RAM and 10MB Hard Disk $2595

Compare and Save

Why Buy Zenith?

Simply stated, Zenith goes beyond mere IBM-compatibility. In virtually every feature-by-feature comparison, Zenith offers a superior product. From Zenith's thoughtfully designed keyboard to its power-up diagnostic system, the Z-150 and Z-160 Personal Computers provide the best computer value available today.

Features	Zenith Z-150	IBM PC
Processor	**8088**	8088
RAM	**320K**	256K
Maximum Ram expansion	**640K**	640K
Number of parallel ports	**1**	not included
Monochrome monitor card	**1**	not included
Number of disk drives	**2**	2
Number of open slots	**4**	3
Color card	**1**	not included
Monitor	**included**	not included
Power Supply	**165 watt**	63 watt
Software: MS-DOS 2.11	**included**	not included
Microsoft's Word & Multiplan	,,	,,
(word processing & spreadsheet)	,,	,,
Price	**$1895**	**$2785***

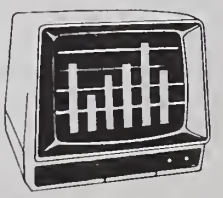
*as advertised in local media

ONLY A COMPANY WITH 36 YEARS OF TV SMARTS COULD MAKE MONITORS THIS GOOD!

Zenith's ZVM 133 Color Monitor + Your Personal Computer System

Zenith Data Systems ZVM 133 and ZVM 136 (interlace capability) high performance monitors feature:

- ► IBM PC, ZENITH Z-100 PC and Other RGB PC Systems Compatibility
- ► 16 Pure Colors including True Brown
- ► Green Screen Only Switch for Monochromatic Text Display
- ► 25 Line x 80 Column Sharp Image
- ► Long-Persistence "Reduced Flicker" Phosphor for Interlace Operations*
- ► Constant Intensity Circuitry
- ► Front Access Controls



ZENITH | data systems

reg $559 NOW ONLY $399.95

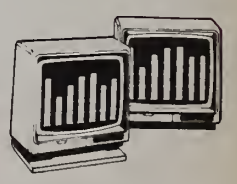
CONNECT UP WITH THE ZVM 133 TODAY!

Green or Amber Monochromatic Option

Zenith Data Systems presents a COLOR CHOICE display option. And, we can offer it at a price designed to save you money too.

The ZVM 122 Amber and ZVM 123 Green Phosphor Monitors Offer:

- **Popular Systems Compatibility**
- **Constant Intensity/Crisp Characters**
- **Front Access Controls**
- **40/80 Character Select Switch**
- **Contemporary, Lightweight Style**



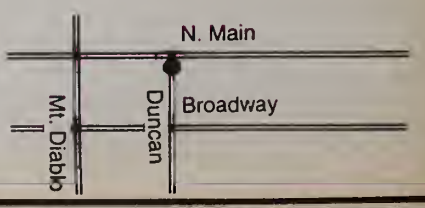
ZENITH | data systems

reg $149 NOW ONLY $89.95

HIGH-TEK COMPUTERS

1435 Duncan St., Walnut Creek

415/930-9600



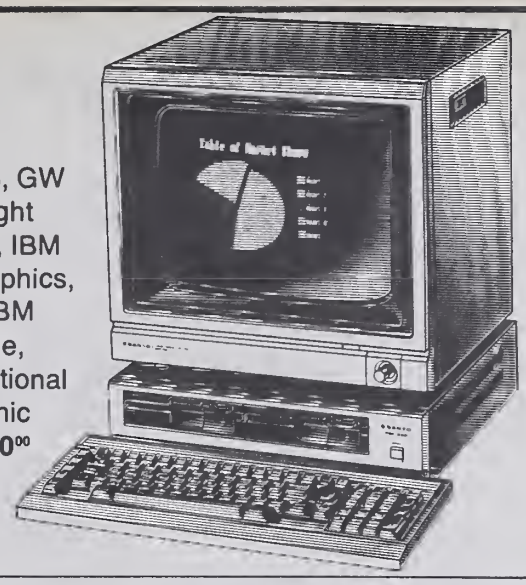
SANYO

The MBC 550 Series with 2 compatible drives

$1095.00

- 16 Bit 8088 CPU MS-DOS 2.11
- 256K RAM expandable to 640K
- 2 5-1/4″ IBM compatible drives
- Parallel printer port
- RGB color graphics board
- 80 column Zenith monitor
- Wordstar-word processing
- Calcstar-financial spreadsheet
- Easywriter 1-alternate word processor
- Sanyo advanced color graphics basic
- Utilities-Lessons-Startup

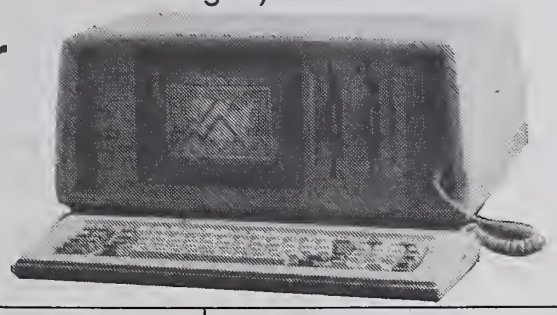
**Runs Lotus 123, GW Basic, Flight Simulator, IBM Color Graphics, 80-90% IBM compatible, **with optional IBM graphic board $200.00



SANYO Portable Color Computer

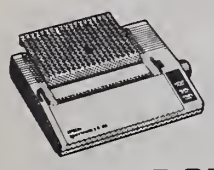
High performance
16 Bit MS-DOS 2.11
100% IBM Compatible
New ROMS

$1895



- 8 MHz Processor (Turbo Charged)
- 256K-8088 CPU
- 9″ color built in monitor
- (2) 360K drives
- 16 color graphics capabilities
- GW - Basic
- MS-DOS 2.11
- Centronics parallel port
- Bundled software

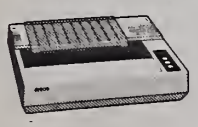
THERE'S NEVER BEEN A BETTER TIME TO BUY AN EPSON®



CALL FOR PRICES

Introducing the New Epson Spectrum™ LX-80.
Epson introduces an economical new printer that's ideal for your personal and business needs. Business quality drafts that print out at a quick 100 CPS and Near Letter Quality characters that rival an office typewriter's.

FX-80+
Dot-Matrix Printer



Now with 20% faster throughput and SelecType™ type selector
- 160 CPS, bidirectional
- Print modes selectable from control panel
- Uses single sheet or pin feed paper
- Supports LetterType™ board and cut sheet feeder options
- One-year warranty

CALL FOR PRICES

JUKI® Model 6300

Letter quality bi-directional Daisy Wheel Printer

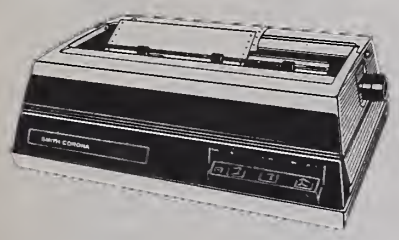
- 40 cps
- Diablo Print Wheels and supplies

Excellent for word processing

CALL FOR PRICE

NEW FROM EPSON! HOMEWRITER COMMODORE graphics compatible. Call For Prices

XIDEX-DYSAN
$12.95
Box of 10 W/Carrying Case

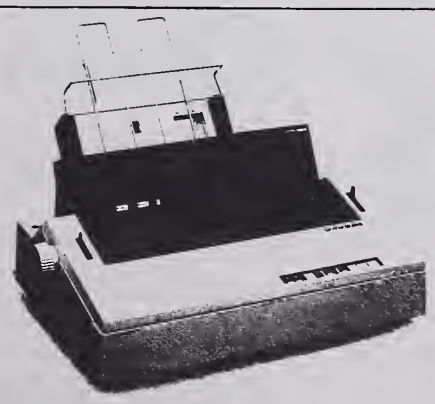


SMITH-CORONA®
L-1000 Letter Quality Printer

- Simple-proven reliability
- Bi-Directional printing
- Triple Pitch - 10,12,15 cpi
- Interchangeable Daisy Wheels
- Serial and Parallel interfaces
- Nationwide repair service

Now you can afford to print-out your letters, reports, forms and documents with the quality they deserve.

$229



New Model
BROTHER HR 15XL

features:
- new model 18 cps
- 2 color printing
- 3K buffer logic seeking
- super/sub script
- bold underline
- bi-directional
- 10,12,15 characters/included
- proportional spacing

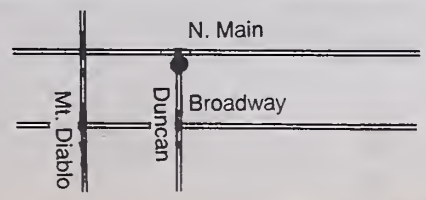
options:
- tractor feed
- auto cut sheet feed
- keyboard
- converts printer into a typewriter

$349

HIGH-TEK COMPUTERS

1435 Duncan St., Walnut Creek

415/930-9600



Executive Writer

Published by: Paperback Software
For: IBM & compatibles
Price: $69.95

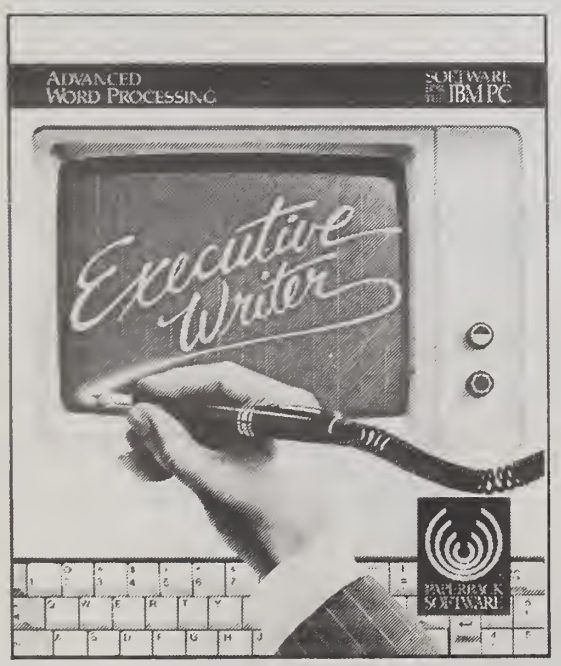
Executive Writer is the "fully featured" word processing program for the IBM PC and its compatibles from Paperback Software. Everyone knows it's cheap; now how good is it?

Well, it's not perfect, but it's very, very good. What follows is a quick summary of what's good about it and what's not so good about it. Tally up the pluses and minuses and decide for yourself.

Executive Writer is fast. It may take some time to get accustomed to that, but it is a very desirable feature.

The software has a very streamlined appearance on the screen. The definitions of the function keys appear on the bottom row of the screen, and just above them a number of status indicators. While you are editing no menus clutter up the screen.

Executive Writer takes nearly full advantage of the IBM PC keyboard's special features. Instead of using control sequences, commands are introduced with keys like ALT, SHIFT, and CTRL. These keys redefine the ten function keys at the left of the keyboard. Commands are invoked with relatively few keystrokes. *Executive Writer* contains a subset of the *WordStar* cursor movement commands, so it's very easy for someone who knows *WordStar* to pick it up and begin working.



The compact command sequences may be a problem for some typists: you run the risk of inadvertently executing some command that bears no relation to what you are trying to type. So if you're a little clumsy typing in the word "are" you may find that you've typed "Ctrl-re" and that Executive Writer has instantly scrolled you up a screen and you are now blissfully typing away over something you wrote several minutes ago. The compact command sequences and speed that are so often longed for are not unambiguous blessings.

Executive Writer is like every other What-You-See-Is-What-You-Get word processor: it attends to the horizontal features of page layout, chiefly right-hand margin status (whether ragged or justified) while neglecting vertical features of page layout. Thus, things like line spacing are left to print time formatting. This carries through to an absence, which can be annoying, of page, line, column indicators and page breaks.

There is both printed and online documentation. The printed documentation is compact and easy to read. The "online" documentation is helpful and unobtrusive (it may be invoked with a function key at any time). First-time users should have no problem getting acclimated to this product.

The print formatting commands are extensive and versatile. Printer installation should pose no difficulties if you have one of the printers "on the list." Printers not on the list will take longer. Printer configuration also depends in part on the configuration of the operating system, and the documentation is silent on this subject. For the cognoscenti this will not be a problem, but beginners run the risk of a frustrating experience.

Printing cannot be put in the background. There is no way to go on with other commands while printing.

No operating system commands are built into *Executive Writer*: you cannot delete, rename, or copy files without quitting *Executive Writer*.

There are some whiz-bang features that are not here. Decimal tabs and column blocks would be a nice touch, but they are not absolutely necessary. Neither will you find multiple file editing, windows, or mouse support. You will, however, find plenty of good features to make all the writing you do easier.

Executive Writer can be used as either a word processor or a text editor. It may not make good sense to edit large files, but you will be able to edit them with *Executive Writer*. With a file in the 80,000 byte range, certain features slow down considerably, but the product still works.

Executive Writer has an "undelete" facility in the guise of a "recall block" command. The last thing you deleted is held as a block (until you mark something else as a block). This can be recalled at any place in the document.

Global Search and Replace commands have "wildcards" which allow you to search for some string and replace only a portion of it. This is a very fine feature.

Up to ten macro keys can be defined, and these definitions may then be saved, and recalled in subsequent editing sessions.

Executive Writer is not just a generic word processor but a well-thought-out product. If you're looking for a good package to learn word processing from the ground up, or if you're dissatisfied with the word processor you're using now, you should probably take the plunge and check out *Executive Writer*.

— Bennett Falk

2001: A Businessman's Solution

Published by: Financial Information Systems
For: IBM and compatibles
Suggested Retail Price: $3995.00

In the ceaseless battle to manage and control a business, *2001* gives the small- to medium-sized entrepeneur additional ammunition. The complete package is made up of nine integrated modules with a suggested retail of $3995.00 for the entire group. Included in this price is the "2001 Computer," an unidentified co-processor board which fits in the standard slot of any IBM-compatible computer. This hardware device allows faster information processing and gives the program a multi-tasking capability. The real advantage of this is evident to the experienced accounting package user right off: NO BATCHING! Entries are posted (with some minor exceptions) right upon inputting. This is great if you are like me and forever forgetting to post at the end of a session. True, *2001* does require a hard drive, but this allows the program to be totally integrated: one-time entry goes to all the right places. The total program with ample space for data only takes up 6.5 megabytes, so on the standard 10 MB fixed disk there is room for word processing and anything else you might need to put on it. RAM requirement is 256 KB.

There is a complete on-screen tutorial included — which you will probably never use, since *2001* is completely menu driven and has on-screen help available for every screen. The program utilizes most of the standard accounting reports, and also has a built-in report generator which allows for some custom tailoring. With the Job Costing package, the system works well for the construction industry; its database style format allows some estimating capability. Putting the entire system on a Compaq Plus portable gives you a complete unit which is easily transportable from site to site.

Two features which I enjoyed were *2001*'s ability to handle cyclic billing, which is a great help for those of us with a lot on their minds, and the integration feature which feeds right into *Lotus* or *WordStar*.

Soon to come are additional integrated packages: an order entry system for distributors and wholesalers, and a custom application for print shop management (if my print shop would use it, I might get my business cards on time for a change). There is a consumer support line which guarantees a 15-minute callback.

For an individual looking for an accounting package, this is an excellent value and should be considered.

— Kim Nelson

Enable: Version 1.0

Published by: The Software Group
For: IBM & Compatibles — requires 2 disk drives or hard disk
Price: $695; trade-up from *Lotus 1-2-3*, $395; trade-up from *dBaseII*, $395.

As a new computer user, I had been searching for an integrated software package which could do all of the basic business tasks: word processing, spreadsheet, database management, graphics, windows, macros, file management and telecommunications, but I am not, and did not want to become, a programmer. On the other hand, I did not want a package so simple that it would limit my abilities to handle large database tasks or word processing applications. Nor did I want a package so sophisticated I wouldn't be able to master it myself. I knew just enough to get myself into trouble, and was in the painful process of deciding where I was going to have to compromise. Fortunately, I discovered *Enable*.

Enable is a powerful, truly integrated software package which performs almost flawlessly, yet is neither difficult to learn nor a struggle to use. It is both wide in application and deep in sophistication. I was getting ready to buy *Symphony* as an upgrade to the *Lotus 1-2-3* I bought with my Compaq (I was also looking at *Framework*) when someone suggested that I look at *Enable*. Its big advantage is the availability of an upgrade purchase program (from *Lotus 1-2-3*) for $395, rather than the regular retail price of $695. The company also sells *Enable* as an upgrade from *dBaseII* for $395. This seems to be unusual, but they apparently want to grab *Lotus 1-2-3* and *dBaseII* users' attention.

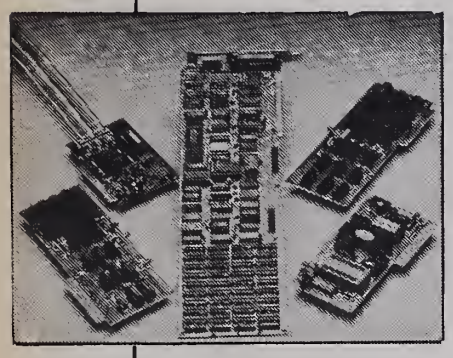
The application components are similar to *Symphony*'s: Spreadsheet/Graphics, Database Management, Word Processing and Telecommunications. The company claims that each application is as powerful as the stand-alone systems which are considered today's benchmarks: *WordStar*, *dBaseII* and *Lotus 1-2-3*; and all easier to use and integrated smoothly. *Enable*'s menus and single-key controls guide the user from function to function, and are used in a logical tree structure to get you from anywhere in the system to anywhere else, yet there are expert commands which allow you to skip past the menus and accomplish complex functions with one to three keystrokes (for example, to save the file you are working on and open a new file, tap F9,S,C). If you have been using other software and are concerned with buying incompatible software, never fear. *Enable* can read files written in *Lotus 1-2-3*, *Visicalc* and DIF format and convert them to its

"THE PRICE CONNECTION"

IBM DRIVES & ACCESSORIES

TEAC 55-B $99
D/S D/D 360K
1/2 height

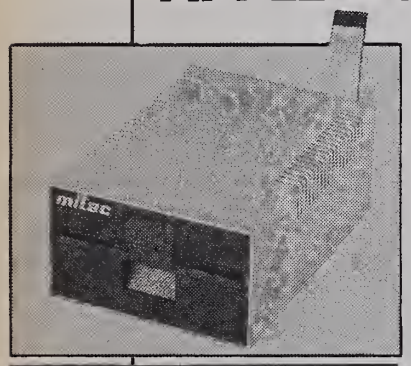
Shugart SA-455 $89
D/S D/D 360K
1/2 height
FREE IBM mounting bracket w/purchase of two



AST/Quadboard/Sigma Designs/Techmar Captain IBM Multifunction board w/64K
only $189

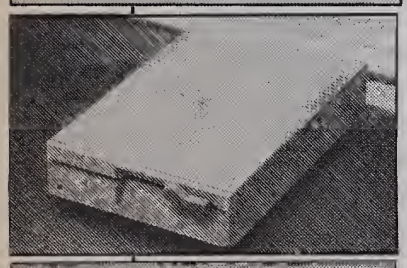
Memory Chips $14.99 SET
64K RAM sets
4164 - 150 Nanoseconds
Tested & guaranteed
(9 per set)

APPLE ACCESSORIES

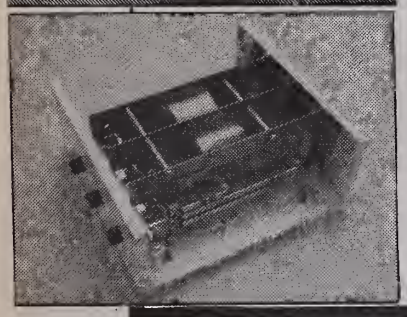


Apple Disk II type drive - AD-1
Full height Shugart SA-390 Mechanism
For all Apple II, II+, IIe

Only $125
Complete with case and cable.
Ready To Plug In.



New Mitac AD-3C Disk Drive
for Apple IIc
Precision, direct drive, attractive design fully shielded, strain relief, 1910 Pin Direct, plugged in cable. $149



Data Spec Printer Switch Box
Fully shielded, exceeds FCC Requirements
Low capacitance, heavy duty, all metal constructions

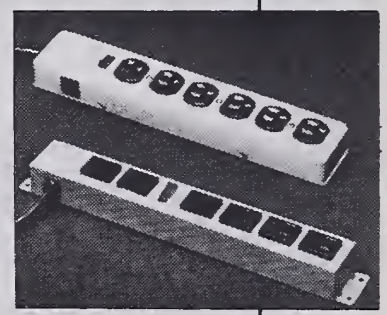
AB-25 Serial DB-25 Box $59

AB-36 Centronics Parallel Box $79

MORE APPLE ACCESSORIES

Disk Controller Card for 1 or 2 drives	$35
Printer Card w/Centronics Parallel Cable	.35
Grappler Type Graphics Printer Card	.59
16K RAM Language Card for Apple II, II+, 48K	.35
Z-80 CPM Softcard Microsoft type emulator	.39
RS-232C Serial Card 0-19, 200 Baud Rate	.39
Super Serial Card RS 232 Communication Card	.99
80 Column Card w/Auto Softswitch	.49
Extended 80 Column Card w/64K for Apple IIe	.99
Modem Zoom Networker 110/300 BAUD Internal w/software for Apple II, II+, IIe	$79

Apple Cooling Fan
w/surge protection
for Apple II, II+, and IIe
just clips on the side
U.L. listed components, lighted front power switch, dual auxiliary outlet.
$24.99



A.C. Power Strip
w/surge protection
consists of (M.O.V.) metal oxide voristor and spike detectors, 10 amp fuse
1250 watt power handling
U.L. listed components
List $59.99
$11.99

DOT MATRIX PRINTERS

Epson RX-80 . . . . . $229
Super-5 CP-80
Same as compace producer CP-80 BML-BX-80, Legend 800 and many others. $199

LIFETIME WARRANTY DISKS

Maxell 5¼" SS/DD MD-1	$15.49
Maxell 5¼" DS/DD MD-2	.19.99
Maxell 5¼" 96 TPI MD-2HD (for IBM AT 1.16 meg)	.45.00
Maxell 3½" (MacIntosh)	.39.99

BULK PRODUCT

5¼" SS/DD disk w/hubring and tyvek envelope
100% certified and guaranteed
(25 per pack)
only 88¢ each

PRINTER PAPER

9½" x 11" 18 lbs. - 20 lbs. bond
Box of 3000 sheets, single form only
$29.99

TOLL FREE ORDER LINES
In CA call **800-232-9090**
In USA call **800-222-5657**

EASTBAY ORDERLINE
(415) 881-1772
(415) 887-5598

WESTBAY ORDERLINE
(415) 341-2425

UPS SHIPPING DAILY

ORDER INFORMATION
We ship anywhere in continental USA daily VIA UPS
California residents include 6.5% sales tax. C.O.D. orders add $2.00
Orders under $100.00 add $2.00 shipping/handling charges.
We pay all shipping and insurance on orders over $100.00 (UPS ground service only)
Will call service available at our Hayward office by appointment only.

ALL MERCHANDISE IS 100% FACTORY WARRANTEED.
PRICES AND AVAILABILITY SUBJECT TO CHANGE WITHOUT FURTHER NOTICE.
PAYMENTS ACCEPTED IN FORMS OF CASH, CHECK, MONEY ORDER, OR C.O.D.
PURCHASE ORDERS ARE GLADLY ACCEPTED.
WE GLADLY OFFER TECHNICAL AND CUSTOMER SUPPORTS.

V.I.P.C. "THE PRICE CONNECTION"

384 Jackson Street Suite #1
Hayward, Ca 94544

own format. It will also read *dBaseII* format files, as well as *WordStar*, *EasyWriter*, *Volkswriter*, and ASCII files. The system can also create an ASCII file and save it to disk for later transfer.

Enable's windowing capability is easy to use to copy data from any window to any other window, including database information into spreadsheet cells. You can open up and use up to 8 windows at one time. Macros can be created anytime to perform complex functions (from boilerplate paragraphs or phrase dictionaries in word processing to elaborate formulas or database sorts). Or, if you regularly transfer database sorts into a spreadsheet after updating inventory information, you can perform the entire task with a single macro key. You can set up profiles for default action on hardware, printing options, and display options, or use different profiles for different hardware configurations. In Telecommunications, you can enter and store as many "set-ups" to different information sources or utilities as you wish. All of the set-up procedures are created by following the step-by-step question and answer process the system guides you through. Even setting up a database has been simplified this way. I am the sort of person who sweats when confronted by an if-then statement, and I was intimidated by users' reports of *dBaseII*'s complexity and programming-type language requirement. I have rarely had to refer to my documentation because of *Enable*'s menu and screen-oriented set-up procedures.

The Database Manager has a 32 field limitation, which allows the format to be *dBaseII* compatible. However, The Software Group will be expanding this on a future update. Input and Report forms are very easy to create, and the database can be interacted with through various commands: Find, Add, Sort, Update, Display, Edit, Copy, Report, Browse, Verify, Merge, Undelete, Replace, Archive, Graph, etc. You can specify any logical "Where" statement and display, sort, or report on any number of fields. Again, all functions operate through extensive menu screens or expert commands. Commands are reached through the F10 key (in database, word processing, telecommunications and spreadsheet), and for *Lotus 1-2-3* users, the slash key (in spreadsheet). The telecommunications system can be configured for any number of different protocol profiles.

In fact, I have found very few things the system cannot do, with the exceptions of proportional spacing support for word processing, double-column printing, and merging of databases. However, these are all features coming out in the first update in May, 1985.

There are built-in tutorials and help messages (via the F1 key), all clearly presented. The documentation is also clear and well indexed. I rarely have any problem finding what I need to know. As a fairly new user, I have a big need for support. Since I bought the software from a dealer who did not know anything about it, I have had to explore the software on my own. The system is well enough organized that I have used the entire system without reading any of the manuals straight through. However, when I come across a snag, the company provides an 800 number for customer service, and these patient and understanding folks have spent up to an hour with me at a time, assisting me with all aspects of the system. I rate their support as outstanding.

Purchasers of the system receive two free updates (which come out every 120 days). For $95, you can register for three additional updates, and become part of the advisory committee for software enhancements.

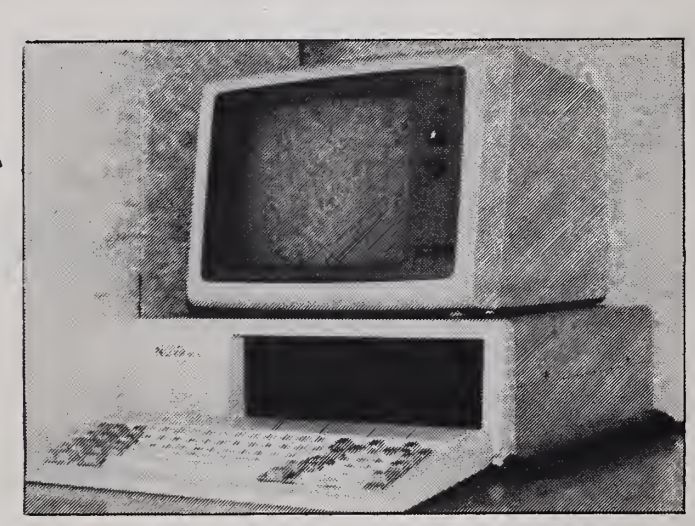
Integrated systems seem to whip up the same patriotic fervor as programming languages did a few years back. I have seen different people get excited about *Symphony*, *Framework* or waiting for *TopView* to work, rallying friends and family around the user tree. Unfortunately, the same thing has happened to me. I have not gone through the careful cross-comparison I was going to do because I became ecstatic with this software. It ran fairly easily on my 2 diskette system without the need for too much disk swapping (unlike the *InteSoft* system which I tried, which required a ridiculous amount of disk swapping in moving from application to application). However, I now have the system on hard disk and the software is fast and breezy. I have been told that it is written in Assembly, so although it is a "big" system, it will run on a 256K system. The people who developed *Enable* cut their teeth on the development of the Bibliographic Retrieval System for the Library of Congress, and have spent the last 2½ years working on this software.

As a heavy database and word processing user, I have found this integrated system ideal for my business and personal use. My experience and feeling is that *Enable* is worth far more than the $695 retail price, especially considering the tremendous support you get with the purchase. For those who own *Lotus 1-2-3* or *dBaseII* and are considering upgrading to an integrated system, I highly recommend comparing *Enable* to *Symphony* or *Framework* since you can upgrade to *Enable* for $395. *Enable* is copy protected. However, as a subscriber ($95) you can get a non-copy-protected version for transfer to your hard disk at no additional cost, providing you sign a license agreement. The floppy-disk system comes with a back-up disk, and additional back-ups can be ordered. The PR phrase the company uses to promote *Enable* is "Integration Without Compromise." I would agree with that assessment. Check it out. (The Software Group, Northway Ten Executive Park, Ballston Lake, N.Y. 12019, (518) 877-8600).

— Lion Goodman

PC/XT-Top Of The Line
IBM PC/XT Compatible Computer

NOVA
PC/XT



Features:
- Affordable priced PC/XT computer
- Runs PC, MS-DOS, CPM/86
- Of Course, this versatile computer runs Flight simulator, Lotus 1-2-3, Symphony, Framework, Peachtree, D Base II & III, PC Paint, Auto C.A.D., . . . and tons of software.
- We have a demo system available for your testing.
- OEM, dealer inquiry welcome

Computer System

NOVA PC Bare Bone $695
Includes: 64K mother board, case, 130W power supply, keyboard, floppy controller card

NOVA PC 256K $1295
Includes: keyboard, 130W power supply, 2½ ht. dr., 6 pack compatible multifunction board, color graphic card, 4-drive controller card

NOVA XT 256K $1935
Includes: keyboard, 130W power supply, 2½ ht. dr., 6 pack compatible multifunction card, color graphic card, 4-drive controller, 10MB hard disk, DTC hard disk controller

Upgrade Kit for PC to XT
Internal, Miniscribe 10MB H.D. + DTC controller. . **$625**
Internal, Miniscribe 20MB H.D. + DTC controller. . . **795**
Internal, Irwin 10MB tape back-up with cartridge & cable, free installation **625**
High quality XT 130W power supply. **139**
NOVA external, 10MB hard disk drive **875**
NOVA external, 10MB hard disk with 10MB tape back-up system **1650**
NOVA external, 20MB hard disk drive **995**
NOVA external, 10MB tape back-up system. **850**
NOVA external 45MB tape back-up **1450**

New Products
IBM AT compatible case **$175**
195W switching power supply for AT **225**
Serial parallel card for AT (2 serial, 1 parallel). **150**
Multi I/O card for PC/XT (2 serial, 1 parallel, clock) . . **145**

Nova AT (IBM AT compatible) will be coming soon

Nova Series Add On Board
Nova mother board w/installation manual **$75**
Nova 6 function board w/64K (Ast 6 pack compatible) **185**
Mono-graphic board (Hercules compatible) **170**
Color-graphic board w/printer port, game port **150**
Floppy controller w/cable **90**

Disk Drive and Monitor and Accessories
Teac 55B ½ ht. 360K floppy drive **$110**
Microscience 10MB, 20MB (lowest price)
Miniscribe or Teac 10MB ½ ht., hard disk. **420**
Miniscribe 20MB ½ ht. hard disk. **620**
Keytronics compatible #5151 keyboard. **130**
High Tec keyboard. **130**
Amdek 310A (Amber monitor). **147**
Amdek 600 RGB (640x200) **385**

Computrade Company

(In KOLL Commercial Center)
780 Trimble Road, suite 605, San Jose, CA 95131 TEL: 408-946-2442
(We are nearby the HWY 17 and Montague expressway)

New! BriteLine™

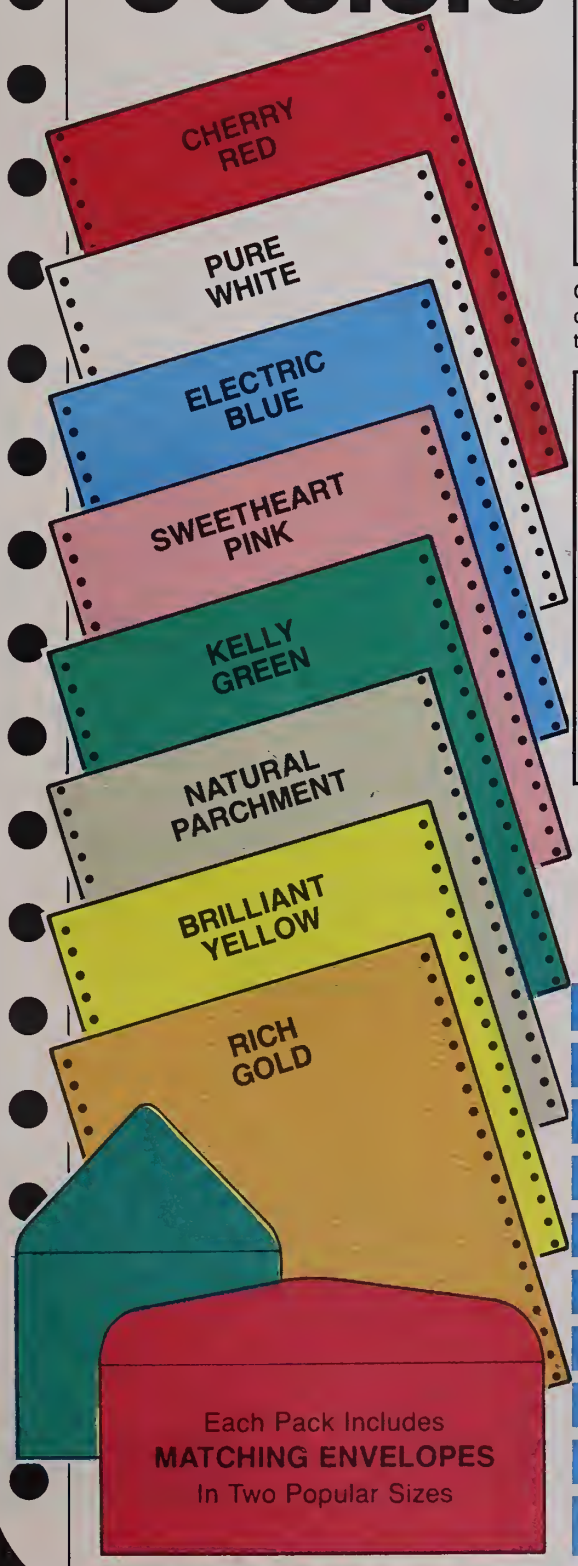
"The finest quality computer paper you can buy...for Home, Business, Education"

Color Computer Paper

Commands Attention! • Conveys Warmth and Beauty! • Increases Readability! • Produces Results!

A RAINBOW OF 8 WARM, RICH, VIBRANT COLORS—WITH MATCHING ENVELOPES IN 2 POPULAR SIZES

8 Colors



POPULAR USES:

FOR HOME—BUSINESS—EDUCATION

- Word Processing
- Stationery
- Computer Art
- Announcements
- Signs/Banners
- Reports/Proposals
- Report Covers
- Personal Notes
- Greeting Cards
- Spreadsheets
- Advertising
- Color Coding
- Overhead Slides
- Teaching Aids
- Menus/Notices
- Certificates
- Selling Aids
- Trade Show Signs

You'll discover dozens of new uses!

SPECIFICATIONS:

- Premium-quality specialty paper
- Smooth finish for sharp imaging
- Heavy-grade 60# paper (ordinary white computer paper is thin, 15#, 18#, or 20# weight)
- Pin-feed, continuous form
- Clean-edge, micro-perforated
- Standard size 9½" × 11"
- Tears down to 8½" × 11" with crisp, razor-sharp edges

Order a Pack today. You'll get everything you need—paper *and* envelopes—to start creating attractive printouts with "The Personal Touch" for special occasions. Satisfaction guaranteed or your money back. Call now toll-free. Credit cards accepted. Fast delivery! Dealer inquiries invited.

Sampler Pack

Contains 320 Pieces:

- **160 Sheets Paper** (20 of each color)
- **80 Announcement-size Envelopes** (10 of each color)
- **80 Large, #10 size Envelopes** (10 of each color)

$29.95

Jumbo Pack

ECONOMY SUPER ASSORTMENT

This package is our ***best value***!

Contains 800 Pieces:

- **400 Sheets Paper** (50 of each color)
- **200 Announcement-size Envelopes** (25 of each color)
- **200 Large, #10 size Envelopes** (25 of each color)

$59.95

Order Yours Now by Mail or Phone

Call Toll-Free 800-643-0800

MAIL ORDER FORM

VISA MasterCard

Send orders to: Telephone orders call toll-free **1-800-643-0800**

Pixellite Computer Products • 5221 Central Ave., Suite 205 • Richmond, CA 94804

_____ **SAMPLER PACK(S)** @ $29.95 ea., plus $3.20 ea. Delivery Charge = _____

_____ **JUMBO PACK(S)** @ $59.95 ea., plus $4.80 ea. Delivery Charge = _____

☐ VISA ☐ MasterCard ☐ Check add 6½% California sales tax _____

Card # _____ **TOTAL ORDER** _____

Expires _____ *Thank You for Your Order!*

Name _____

Address _____

City _____ State _____ Zip _____

Daytime Telephone (_____) _____

M1

Produced and Distributed internationally by Pixellite Computer Products, Inc. • 5221 Central Avenue, Suite 205 • Richmond, California, USA • Telephone (415) 527-6400

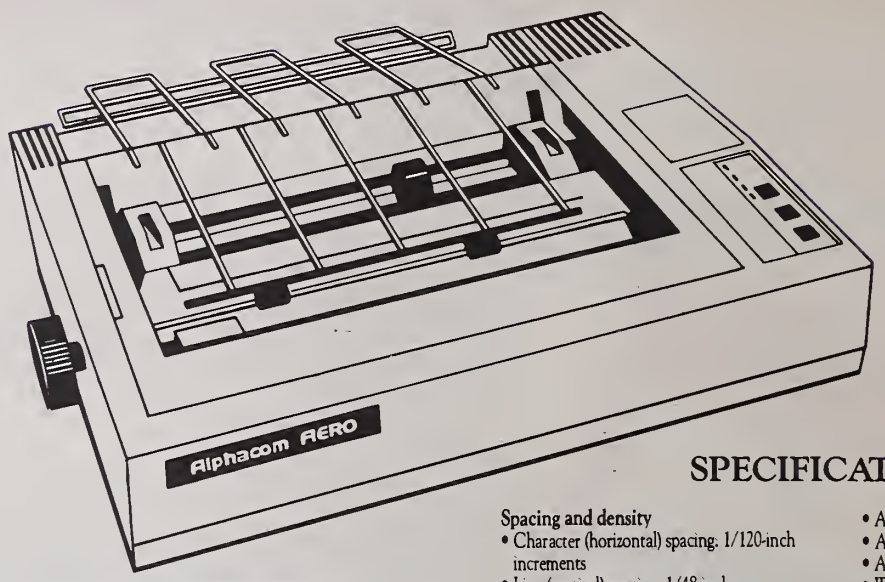
CALL FOR DEALER PRICES

HOW TO MAKE THE WORLD'S GREATEST IMPRESSION. JUST $399.

Alphacom

THE WRITE IMPRESSION.

Go ahead! Kick the tires and compare.



PRINTER MODEL NUMBER	LIST PRICE DOLLARS U.S.	*† P.P.I. INDEX	MAX SPEED CPS	MAX PAPER WIDTH INCHES	(dba) SOUND	REPLACEMENT COST PRINT-WHEEL	REPLACEMENT COST PRINT RIBBON	WARRANTY
Alphacom Alphapro 101	399	19.95	20	13	62	6.50	6.50	ONE YEAR
Abati LQ 20	479	26.61	18	13	60	7.95	7.95	ONE YEAR
Brother HR15XL	599	35.23	17	13.5	65	25.00	6.95	90 days
Brother HR25	895	38.91	23	16.5	65	25.00	6.95	90 days
Juki 6100	599	33.28	18	13	62	22.00	4.95	90 days
Silver Reed EXP 550	649	34.15	19	17	65	18.00	7.95	90 days

*Price Performance Index = Cost per character per second †Courtesy of Juki Industries of America
Comparisons in this matrix are based, not upon actual test, but upon manufacturer's specifications.

SPECIFICATIONS

Spacing and density
- Character (horizontal) spacing: 1/120-inch increments
- Line (vertical) spacing: 1/48-inch increments
- Print pitch: 10, 12 or 15 CPI (Characters per inch) and proportional spacing (software selectable)
- Characters per line:
  110 characters at 10 CPI
  132 characters at 12 CPI
  165 characters at 15 CPI

Print speed
- 20 CPS

Power
- Voltage AC 110

Interface Accessories
- Centronics parallel
- RS232 serial
- Apple® II+™, IIe™
- Apple IIc™
- Apple Macintosh™
- IBM® PC
- Emulates Diablo 630 protocols

Buffer
Standard 93 character

Size and weight
- 18.9" x 5.51" x 11.61"
- 18 pounds

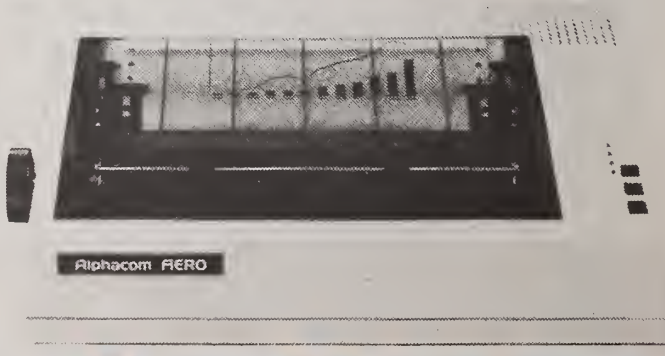
Maintenance
- one-year warranty

Paper information
- Uses any type paper: fan-fold, single sheet, envelopes, labels, carbon copies
- Fricton feed
- Form width: up to 13 inches
- Copy capacity: original plus 3 copies

ONLY $399
(CALL FOR DEALER PRICES)

THE ALPHACOM AERO DOT MATRIX PRINTER

The Alphacom Aero is an outstanding price-performance value and an attractive and versatile printer. The Aero blazes across the page at 130 characters per second. It provides quality graphics and text worth hundreds of dollars more. As a general purpose printer, for speed, quality, and cost-efficiency, the Alphacom Aero is unbeatable.



SPECIFICATIONS

Functional Specifications
- Serial Impact Dot Matrix
- Print Speed of 130 cps
- 9x9 dot matrix field
- Supports Alphanumeric, semi-graphic, and bit-image graphic modes
  — Alphanumeric — Six modes (pica, condensed, enlarged, condensed/double-width, elite, enlarged elite). Full 96-character ASCII set, with true descenders, plus sixteen European characters. Math, Greek, and graphic character sets are also supported. Ninety-six user-definable characters may be loaded.
  — Semi-graphic — Fifty block characters are available
  — Graphic-bit image. Modes using 480, 960, and 1920 dots per serial line are selectable.
- Print Line Width — 8 inches
- Bidirectional, logic seeking printing in text and semigraphic modes.
- Tractor and friction feed
- Weight is 11 lbs.

only $249

CALL FOR DEALER IN YOUR AREA

Anthem systems

6001 Butler Lane Scotts Valley Ca 95066

(408) 438-1900

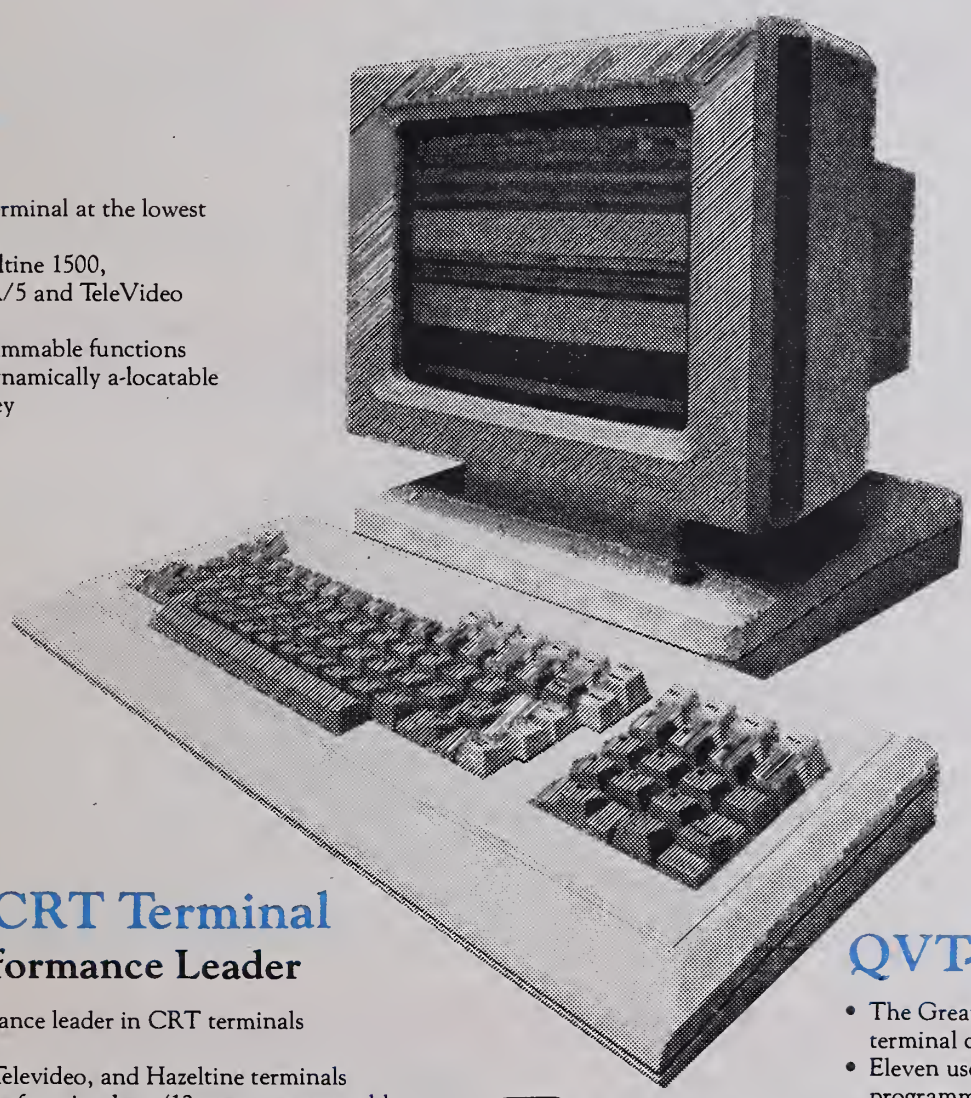
QUME

QVT™ TERMINALS

The New QVT-101™ Terminal

- Premier-quality 14" terminal at the lowest price in history
- Full emulator of Hazeltine 1500, Lear-Siegler ADM 3A/5 and TeleVideo 910
- 16 host or user-programmable functions
- 1 to 128 characters dynamically a-locatable to a single function key

$395
Call for dealer prices



QVT-102™ CRT Terminal
The Price-Performance Leader

- The new price/performance leader in CRT terminals
- Block transfer mode
- Emulates Lear Siegler, Televideo, and Hazeltine terminals
- Four user programmable function keys (12 user programmable functions)
- 80-column 12 inch display with extra-clear 7×9 character resolution
- Screen tilts and rotates for operator comfort
- Low-profile detached keyboard
- Video capabilities include reverse field, dual intensity, blinking, underlining, protected fields, and security
- Graphics characters for creating charts, graphs and forms

$399

Qume
A Subsidiary of ITT

QVT-103™ CRT Terminal

- Two pages of screen memory (expandable to four)
- Selectable 80/132 column format
- Block transfer mode
- Double height and width characters for headings and emphasis
- Horizontal split screen format
- Detached keyboard and rotating/tilting screen for operator comfort
- Video capabilities include reverse field, dual intensity, blinking, underlining, protected fields, and security
- Buffered bidirectional auxiliary port
- Built-in line-drawing graphics for charts, graphs and forms
- DEC VT100™, VT131™ and VT52™ compatible at lower cost

$639

QVT-108™ CRT Terminal

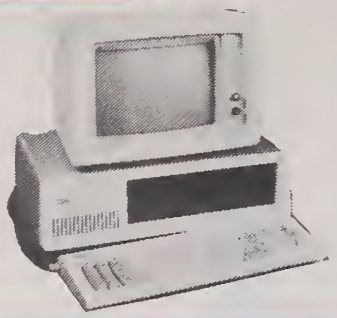
- The Great Emulator provides Televideo 925™, 920™ and 912™ terminal capability
- Eleven user programmable function keys (22 user programmable functions)
- A high-power terminal at a low price
- Block mode transfer
- Bidirectional auxiliary port
- Big 7×9 character with descenders for superior readability
- Two pages of screen memory
- Video capabilities include reverse field and screen, dual intensity, blinking, underlining, protected fields, and security
- Built-in line-drawing graphics for charts, graphs and forms

$419

Anthem
systems

6001 Butler Lane Scotts Valley Ca 95066
(408) 438-1900

GRAND OPENING CELEBRATION



IBM YTEM $AVER

PC w/256K 2½ Ht DRS
DISPLAY & CARD

ONLY
$1988

COMPUTER$

IBM XT 256K . . . . . **$ave**
IBM AT 20MG. . . . . **$ave**
Sharp Port. 5000 . . . . . **1349**
($ave ½ off reg. price on thermal printer)

MONITOR$

IBM Color. **575**
Princeton HX-12. . . . . **470**
Sony KV-1311 . . . . . **$ave**
Amdek 310A **164**
Quimax Amber. **177**
Many Many Others. . . . . **Call**

RGB Cards 16 Color for your IBM or Apples to Sony . . . .Call

MULTIFUNCTION, COLOR, MONOBOARD$

AST 6 Pack w/64K . . . . . **$ave**
Quadram Quadboard **239**
Techmar Captain w/64K **199**
Hercules Color/Mono **159/313**
Everex Graphics Edge . . . . . **Unbelievable**

$OFTWARE

Lotus 1-2-3. . . . . **$ave**
Symphony . . . . . **$ave**
Wordstar 2000/2000 + ... **295/395**
Wordstar Pro **259**
dBase II/III **279/389**
dBase Upgrade **139**
Display Write . . . . . **$ave**
Word Perfect . . . . . **$ave**
Volkswriter Deluxe **185**
Harvard Project **239**
Framework. . . . . **$ave**

MODEM$

Hayes 300 . . . . . **205**
Hayes 1200B . . . . . **$ave**
1200B No Software **330**
Hayes 1200 . . . . . **$ave**

DRIVE$/HARD DISK$

IBM Drive **155**
Teac ½ Hts. **118**
Mitsubishi ½ Hts **125**
10 MG, 20 MG . . . . . **$**
By Tandon, Microscience . . . . . **A**
Nippon . . . . . **V**
w/Western Digital & DTC Controller . . . . . **E**

Printers at Hi-Speed

EPSON LX-80 FX-80 FX-100 LQ-1500
NEC Spinwriters Elf 360
TOSHIBA P351
OKIDATA 182P 192P
JUKI 6300 6100

Tokyo Electronics

We are the Original Independents • 25 Years Serving the Bay Area

Japan Center, S. F.
1737 Post
(415) 567-1213

Downtown, S.F.
650 Mission
(415) 541-9200

San Jose
3143 Stevens Creek
(408) 248-6611

These are Cash-N-Carry Prices

LOG ON, CAMP OUT:

Choosing A Computer Camp

Photo courtesy of Data Base Camp

By Vanessa Schnatmeier

If you hurry, your child may be lucky enough to come home this summer with a tanned skin and an improved version of Pascal.

MICROTIMES SURVEY

It's no longer considered *de rigueur* to send your children to a computer camp to make sure they'll be able to carve out a living for themselves when they turn 21. A computer camp is as much a luxury as any other summer camp, and kids won't be thrown out of school if they can't program.

But if your son or daughter is interested in computers, or if you think a better grounding in computers would suit Jane or John, then a couple of weeks in a computer camp can give your child a concentrated dose of computing in a pleasant, supportive atmosphere.

The first thing to realize is that "computer camp" means different things, depending on the ad you read. An ad that lists "COMPUTER CAMP" at the top in large black letters, but in smaller print below says computers are one of the many electives available, usually means a traditional summer camp has some brand-new computer facilities. Computing will probably be taught as a sidelight to the camp's regular activities of swimming, canoeing, drama, and Western lore. There is nothing wrong with this kind of camp if this is what you and your child desire; just don't expect computers to be on the top of the agenda.

Some camps bill themselves as computer camps when in fact they're more computer clinics, not much different from summer school classes. These camps dispense intensive computer instruction, and physical activities play second fiddle; kids may get an hour of swimming or another supervised sport. Again, nothing wrong with this approach — if your son or daughter shows an intense interest in computing, the "immersion" technique will please them.

Other camps strive for a balance; the majority of computer camps offer about 3½ hours a day of computer instruction, with additional "access time" as requested by the child. Mark Zacovic, the executive director for ExperCamp (formerly The Original Computer Camp), vows to do his best to keep campers from slipping into computer worship. He says ExperCamp selects its instructional staff to be versed in sports and outdoor activities as well as computers, and eschews the "pale, bespectacled, greasy-haired" computer nerd. Don Smith of Camp Odyssey says, "We've tried both all-academic and [elective]; we find kids do better with a balance."

Some camps approach the question of balance by combining computers and sports. For instance, at the University of San Francisco, the dual expertise of one instructor permits them to offer a "Computers and Soccer" camp — the computer science teacher captained

the Greek Olympic soccer squad and continues to coach children's soccer teams. At Meadow Oaks Camp in Calabasas in Southern California, they offer a special "computer analysis sports camp," where children's sports performances are videotaped, digitized, and compared against the digitized performances of world-class athletes — the children learn to do their own digitizing.

The style of computer camp you choose is up to you and your child. Traditional camps with some computer facilities are thick on the ground — just open any newspaper. Because the camps that hoped to cash in on the computer fad have largely faded away, you may find a lot of last year's listings are "not in service at this time." Recommended for further reading (though neither book is updated for this year) are *How To Choose A Computer Camp*, an Alfred Handy Guide by Joseph Cellini, or *The Complete Guide To Computer Camps*, by Mike Benton, published by Bobbs-Merrill.

Don't forget to send your daughter to computer camp! Says Jacqueline Massing of Silicon Valley Computer Camp, "Women are awfully good programmers. If opportunities are really equal, if women are encouraged, then they'll succeed." Many parents tend to think their daughter "just won't be interested," but that's often not the case, especially if you start her before twelve or so. If you don't send your daughter to camp because she's not your son, you're doing her wrong.

Photo courtesy of Data Base Camp

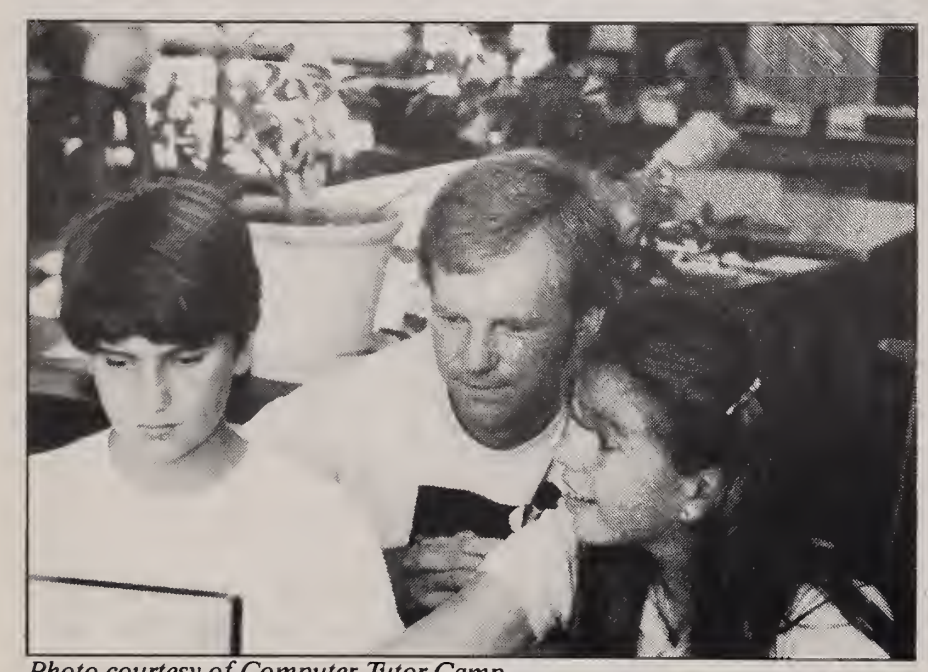


Photo courtesy of Computer Tutor Camp

JUDGING A COMPUTER CAMP

Run down this checklist to help decide whether a computer camp meets your needs.

1. Are there any hidden costs? Will field trips, lodging, or diskettes mean an added charge? Budget some money for extras, so your child won't have to forgo that commemorative camp T-shirt.

2. Does the camp use the type of computers your child has access to? You can find all-Apple camps, or all-Atari camps, and a few all IBM-PC camps. Other camps use a variety of computers, either because they pride themselves on teaching all brands, or because they could only beg, borrow or lease five or six of each type. Make sure the computer you own is included in the curriculum, but don't dismiss the camp out of hand if other computers are in the package.

3. Is there a good camper/computer and camper/staff ratio? Most camps these days try to seat two campers per computer, at least part of the time. While one camper per computer used to be considered the ideal, experience at most camps has borne out that children teach each other and broaden each other's interests and knowledge. The ideal camper/instructor ratio is around six or eight to one, though some very good camps have ten to one or slightly more. Some camps swear that younger teachers, computer science graduate students, or even returning campers make the best instructors because they're more familiar with up-to-date material. Others proudly announce they only employ certified long-time computer instructors. Almost every camp hires non-certified teachers' aides to lighten the workload, so it balances out.

4. Most important, do you like the curriculum? Get as much information as you can. Some campers' "individualized instruction" means that they work chiefly from workbooks; find out how much time the teachers spend with the campers. You want both solo time and lecture time. Everyone teaches BASIC, and most teach LOGO. Another hot topic is robotics. Many camps let students work with off-the-shelf applications, or write their own games, to lure them into programming.

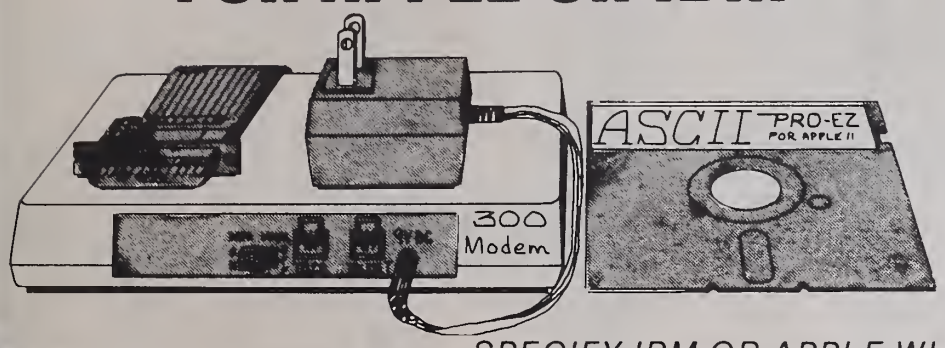
But whatever camp you choose, contact the camp of your choice as soon as possible. Camps fill up fast, especially in computer-crazy California. Call your local university or college for local day camps, which concentrate on local enrollment. If you hurry, your child may be lucky enough to come home this summer with a tanned skin and an improved version of Pascal. □

Photo courtesy of Data Base Camp

UNBELIEVABLE PRICES!

MODEM $69.95

FOR APPLE OR IBM



INCLUDES ASCII PRO-EZ™ MENU DRIVEN SOFTWARE (AT LEAST A $100 VALUE IN ITSELF!)

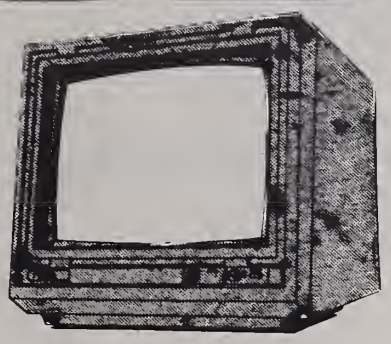
- ★ FCC APPROVED
- ★ BELL SYSTEM 103 COMPATIBLE
- ★ 300 BAUD
- ★ AUTO-DIAL/AUTO-ANSWER
- ★ DIRECT CONNECT
- ★ INCLUDES AC ADAPTOR

SPECIFY IBM OR APPLE WHEN ORDERING

TAXAN MODEL 415

RGB

VISION III MONITOR



ORIGINALLY MADE FOR ACORN COMPUTER SAME SPECS AS THE TAXAN 420

- ★ 18 Mhz BANDWIDTH
- ★ 640 x 262 PIXEL RESOLUTION
- ★ 16 COLORS WITH INTENSITY CONTROL
- ★ 12" BLACK MATRIX
- ★ IBM AND LOTUS COMPATIBLE

$299.95

RGB MONITOR CABLE FOR IBM $15.95

IBM

COMPATIBLE INTERFACE CARDS

MADE IN THE USA BY INTERSIL SYSTEMS

COLOR/GRAPHICS

- ★ SUPPORTS COMPOSITE OR RGB MONITOR
- ★ OPERATES IN ALPHANUMERIC OR ALL-POINTS-ADDRESSABLE GRAPHICS MODE
- ★ SUPPORTS 16 COLORS
- ★ CONTAINS LIGHT PEN INTERFACE

$129.95

MONOCHROME DISPLAY ADAPTOR

- ★ 720 x 350 PIXEL SCREEN (80 CHARACTERS x 25 LINES)
- ★ CHARACTER ATTRIBUTES: BLINK, UNDERLINE, REVERSE VIDEO, INTENSIFIED
- ★ STANDARD TTL OUTPUT

$149.95

JDR Microdevices

1224 S. Bascom Avenue, San Jose, CA 95128

800-538-5000 • 800-662-6279 (CA) • (408) 995-5430

FAX (408) 275-8415 • Telex 171-110

RETAIL STORE - 1256 S. BASCOM AVENUE

HOURS: M-W-F, 9-5 TU-TH, 9-9 SAT, 10-3

PLEASE USE YOUR CUSTOMER NUMBER WHEN ORDERING

TERMS: Minimum order $10.00. For shipping and handling include $2.50 for UPS Ground and $3.50 for UPS Air. Orders over 1 lb. and foreign orders may require additional shipping charges - please contact our sales department for the amount. CA. residents must include 6% sales tax. Bay Area and LA residents include 6½%. All merchandise is warranted for 90 days unless otherwise stated. Prices are subject to change without notice. We are not responsible for typographical errors. We reserve the right to limit quantities and to substitute manufacturer. All merchandise subject to prior sale.

© Copyright 1985 JDR Microdevices

4164 64K DYNAMIC 200ns 9/19.95

41256 256K DYNAMIC 200ns 8.95

STATIC RAMS

2101	256x4	(450ns)	1.95
5101	256x4	(450ns)(cmos)	3.95
2102-1	1024x4	(450ns)	.89
2102L-4	1024x1	(450ns)(LP)	.99
2102L-2	1024x1	(250ns)(LP)	1.45
2125	1024x1	(45ns)	2.95
2111	256x4	(450ns)	2.49
2111L	256x4	(450ns)(LP)	2.95
2112	256x4	(450ns)	2.99
2114	1024x4	(450ns)	8/9.95
2114-25	1024x4	(250ns)	8/10.95
2114L-4	1024x4	(450ns)(LP)	8/12.95
2114L-3	1024x4	(300ns)(LP)	8/13.45
2114L-2	1024x4	(200ns)(LP)	8/13.95
2114L-15	1024x4	(150ns)(LP)	8/19.95
TC5514	1024x4	(650ns)(cmos)	4.95
2141	4096x1	(200ns)	2.95
2147	4096x1	(55ns)	4.95
2148	1024x4	(70ns)	4.95
TMS4044-4	4096x1	(450ns)	3.49
TMS4044-3	4096x1	(300ns)	3.99
TMS4044-2	4096x1	(200ns)	4.49
TMS40L44-2	4096x1	(200ns)(LP)	4.95
UPD410	4096x1	(100ns)	3.95
MK4118	1024x8	(250ns)	9.95
TMM2016-200	2048x8	(200ns)	3.25
TMM2016-150	2048x8	(150ns)	3.75
TMM2016-100	2048x8	(100ns)	4.75
HM6116-4	2048x8	(200ns)(cmos)	3.69
HM6116-3	2048x8	(150ns)(cmos)	3.95
HM6116-2	2048x8	(120ns)(cmos)	5.95
HM6116LP-4	2048x8	(200ns)(cmos)(LP)	3.95
HM6116LP-3	2048x8	(150ns)(cmos)(LP)	4.25
HM6116LP-2	2048x8	(120ns)(cmos)(LP)	6.95
TC5516	2048x8	(250ns)(cmos)	9.95
TMS4016	2048x8	(200ns)	6.95
Z-6132	4096x8	(300ns)(Qstat)	34.95
HM6264P-15	8192x8	(150ns)(cmos)	10.25
HM6264LP-15	8192x8	(150ns)(cmos)(LP)	10.95
HM6264LP-12	8192x8	(120ns)(cmos)(LP)	12.95

LP=Low power Qstat=Quasi-Static

DYNAMIC RAMS

TMS4027	4096x1	(250ns)	1.99
2107	4096x1	(200ns)	1.95
MM5280	4096x1	(300ns)	1.95
TMS4050	4096x1	(300ns)	1.95
UPD411	4096x1	(300ns)	1.95
TMS4060	4096x1	(300ns)	1.95
MK4108	8192x1	(200ns)	.49
MM5298	8192x1	(250ns)	.49
4116-300	16384x1	(300ns)	8/6.95
4116-250	16384x1	(250ns)	8/6.95
4116-200	16384x1	(200ns)	8/8.95
4116-150	16384x1	(150ns)	8/10.95
4116-120	16384x1	(120ns)	8/12.95
2118	16384x1	(150ns)(5v)	4.95
MK4332	32768x1	(200ns)	9.95
4164-200	65536x1	(200ns)(5v)	9/19.95
4164-150	65536x1	(150ns)(5v)	9/21.95
4164-120	65536x1	(120ns)(5v)	4.95
MCM6665	65536x1	(200ns)(5v)	4.95
TMS4164-20	65536x1	(200ns)(5V)	4.25
TMS4164-15	65536x1	(150ns)(5v)	4.95
4164-REFRESH	65536x1	(150ns)(5V)(REFRESH)	8.95
TMS4416-20	16384x4	(200ns)(5V)	8.95
TMS4416-15	16384x4	(150ns)(5v)	9.95
41256-200	262144x1	(200ns)(5v)	8.95
41256-150	262144x1	(150ns)(5v)	9.95

5v=Single 5 Volt Supply REFRESH=Pin 1 Refresh

EPROMS

1702	256x8	(1us)	4.50
2708	1024x8	(450ns)	3.95
2758	1024x8	(450ns)(5V)	5.95
2716-6	2048x8	(650ns)	2.95
2716	2048x8	(450ns)(5V)	3.95
2716-1	2048x8	(350ns)(5V)	4.95
TMS2516	2048x8	(450ns)(5V)	4.95
TMS2716	2048x8	(450ns)	7.95
TMS2532	4096x8	(450ns)(5V)	4.95
2732	4096x8	(450ns)(5V)	4.25
2732A-4	4096x8	(450ns)(5V)(21V PGM)	4.95
2732A-35	4096x8	(350ns)(5V)(21V PGM)	4.95
2732A	4096x8	(250ns)(5V)(21V PGM)	6.95
2732A-2	4096x8	(200ns)(5V)(21V PGM)	10.95
2764	8192x8	(450ns)(5V)	4.95
2764-250	8192x8	(250ns)(5V)	5.25
2764-200	8192x8	(200ns)(5V)	8.95
TMS2564	8192x8	(450ns)(5V)	10.95
MCM68764	8192x8	(450ns)(5V)(24 pin)	24.95
MCM68766	8192x8	(350ns)(5V)(24 pin)	42.95
27128-45	16384x8	(450ns)(5V)	9.95
27128-30	16384x8	(300ns)(5V)	10.95
27128	16384x8	(250ns)(5V)	11.95
27256	32768x8	(250ns)(5V)	29.95

5V=Single 5 Volt Supply 21V PGM=Program at 21 Volts

★★★★HIGH-TECH★★★★

8087-6 $119.00

- ★ 4.87 MHz VERSION OF 8087 MATH COPROCESSOR
- ★ IBM-PC COMPATIBLE
- ★ RUNS TURBO PROGRAMS AS MUCH AS 100 TIMES FASTER THAN 8088 ALONE

★★★★SPOTLIGHT★★★★

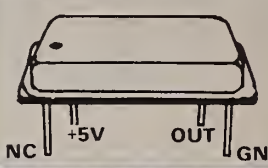
ORDER TOLL FREE
800-538-5000
800-662-6279
(CALIFORNIA RESIDENTS)

CRYSTALS

32.768 KHz	1.95
1.0 MHz	3.95
1.8432	3.95
2.0	2.95
2.097152	2.95
2.4576	2.95
3.2768	2.95
3.579545	2.95
4.0	2.95
4.032	2.95
5.0	2.95
5.0688	2.95
5.185	2.95
5.7143	2.95
6.0	2.95
6.144	2.95
6.5536	2.95
8.0	2.95
10.0	2.95
10.738635	2.95
14.31818	2.95
15.0	2.95
16.0	2.95
17.430	2.95
18.0	2.95
18.432	2.95
20.0	2.95
22.1184	2.95
24.0	2.95
32.0	2.95

CRYSTAL OSCILLATORS

1.0MHz	7.95	8.0	7.95
1.8432	7.95	10.0	7.95
2.0	7.95	12.0	7.95
2.4576	7.95	15.0	7.95
2.5	7.95	16.0	7.95
4.0	7.95	18.432	7.95
5.0688	7.95	20.0	7.95
6.0	7.95	24.0	7.95
6.144	7.95		



GENERATORS BIT RATE

MC14411	11.95
BR1941	11.95
4702	12.95
COM5016	16.95
COM8116	10.95
MM5307	10.95

FUNCTION

MC4024	3.95
LM566	1.49
XR2206	3.75
8038	3.95

CRT CONTROLLERS

6845	12.95
68B45	19.95
6847	11.95
68047	24.95
HD46505SP	15.95
MC1372	6.95
8275	29.95
7220	39.95
CRT5027	19.95
CRT5037	34.95
TMS9918A	39.95
DP8350	49.95

DISK CONTROLLERS

1771	15.95
1791	23.95
1793	23.95
1795	23.95
1797	23.95
2791	39.95
2793	39.95
2795	39.95
2797	39.95
6843	34.95
8272	19.95
UPD765	19.95
MB8876	29.95
MB8877	34.95
1691	7.95
2143	7.95

KEYBOARD CHIPS

AY5-2376	11.95
AY5-3600 STD	11.95
AY5-3600 PRO	11.95

CLOCK CIRCUITS

MM5314	4.95
MM5369	1.95
MM5369-EST	1.95
MM5375	4.95
MM58167	8.95
MM58174	11.95
MSM5832	3.95

74LS00

74LS00	.24	74LS189	8.95
74LS01	.25	74LS190	.89
74LS02	.25	74LS191	.89
74LS03	.25	74LS192	.79
74LS04	.24	74LS193	.79
74LS05	.25	74LS194	.69
74LS08	.28	74LS195	.69
74LS09	.29	74LS196	.79
74LS10	.25	74LS197	.79
74LS11	.35	74LS221	.89
74LS12	.35	74LS240	.95
74LS13	.45	74LS241	.99
74LS14	.59	74LS242	.99
74LS15	.35	74LS243	.99
74LS20	.25	74LS244	1.29
74LS21	.29	74LS245	1.49
74LS22	.25	74LS247	.75
74LS26	.29	74LS248	.99
74LS27	.29	74LS249	.99
74LS28	.35	74LS251	.59
74LS30	.25	74LS253	.59
74LS32	.29	74LS257	.59
74LS33	.55	74LS258	.59
74LS37	.35	74LS259	2.75
74LS38	.35	74LS260	.59
74LS40	.25	74LS261	2.25
74LS42	.49	74LS266	.55
74LS47	.75	74LS273	1.49
74LS48	.75	74LS275	3.35
74LS49	.75	74LS279	.49
74LS51	.25	74LS280	1.98
74LS54	.29	74LS283	.69
74LS55	.29	74LS290	.89
74LS63	1.25	74LS293	.89
74LS73	.39	74LS295	.99
74LS74	.35	74LS298	.89
74LS75	.39	74LS299	1.75
74LS76	.39	74LS322	5.95
74LS78	.49	74LS323	3.50
74LS83	.60	74LS324	1.75
74LS85	.69	74LS348	2.50
74LS86	.39	74LS352	1.29
74LS90	.55	74LS353	1.29
74LS91	.89	74LS363	1.35
74LS92	.55	74LS364	1.95
74LS93	.55	74LS365	.49
74LS95	.75	74LS366	.49
74LS96	.89	74LS367	.45
74LS107	.39	74LS368	.45
74LS109	.39	74LS373	1.39
74LS112	.39	74LS374	1.39
74LS113	.39	74LS375	.95
74LS114	.39	74LS377	1.39
74LS122	.45	74LS378	1.18
74LS123	.79	74LS379	1.35
74LS124	2.90	74LS385	3.90
74LS125	.49	74LS386	.45
74LS126	.49	74LS390	1.19
74LS132	.59	74LS393	1.19
74LS133	.59	74LS395	1.19
74LS136	.39	74LS396	1.89
74LS137	.99	74LS399	1.49
74LS138	.55	74LS424	3.95
74LS139	.55	74LS447	.95
74LS145	1.20	74LS490	1.95
74LS147	2.49	74LS540	1.95
74LS148	1.35	74LS541	1.95
74LS151	.55	74LS624	3.99
74LS153	.55	74LS640	2.20
74LS154	1.90	74LS645	2.20
74LS155	.69	74LS668	1.69
74LS156	.69	74LS669	1.89
74LS157	.65	74LS670	1.49
74LS158	.59	74LS674	14.95
74LS160	.69	74LS682	3.20
74LS161	.65	74LS683	3.20
74LS162	.69	74LS684	3.20
74LS163	.65	74LS685	3.20
74LS164	.69	74LS688	2.40
74LS165	.95	74LS689	3.20
74LS166	1.95	81LS95	1.49
74LS168	1.75	81LS96	1.49
74LS169	1.75	25LS2518	4.13
74LS170	1.49	25LS2521	2.80
74LS173	.69	25LS2538	3.74
74LS174	.55	25LS2569	2.80
74LS175	.55	26LS31	2.19
74LS181	2.15	26LS32	2.19

Z-80

2.5 MHz

Z80-CPU	2.49
Z80-CTC	2.95
Z80-DART	7.95
Z80-DMA	8.95
Z80-PIO	2.95
Z80-SIO/0	9.95
Z80-SIO/1	9.95
Z80-SIO/2	9.95
Z80-SIO/9	9.95

4.0 MHz

Z80A-CPU	2.95
Z80A-CTC	3.95
Z80A-DART	8.95
Z80A-DMA	9.95
Z80A-PIO	3.95
Z80A-SIO/0	10.95
Z80A-SIO/1	10.95
Z80A-SIO/2	10.95
Z80A-SIO/9	10.95

6.0 MHz

Z80B-CPU	8.95
Z80B-CTC	9.95
Z80B-PIO	9.95
Z80B-DART	19.95
Z80B-SIO/0	29.95
Z80B-SIO/2	29.95

ZILOG

Z6132	34.95
Z8671	39.95

6500

1.0 MHz

6502	4.95
65C02(CMOS)	12.95
6504	6.95
6505	8.95
6507	9.95
6520	2.95
6522	5.49
6532	9.95
6545	9.95
6551	9.95

2.0 MHz

6502A	5.95
6520A	5.95
6522A	9.95
6532A	11.95
6545A	12.95
6551A	11.95

3.0 MHz

6502B	8.95

UARTS

AY5-1013	3.95
AY3-1015	6.95
PT1472	9.95
TR1602	3.95
2350	9.95
2651	8.95
IM6402	7.95
IM6403	8.95
UPD7201	19.95
INS8250	10.95

6800

68000-8	39.95
6800	2.95
6802	7.95
6803	19.95
6808	13.90
6809	8.95
6809E	8.95
6810	2.95
6820	4.35
6821	2.95
6828	14.95
6840	12.95
6843	34.95
6844	25.95
6845	12.95
6847	11.95
6850	3.25
6852	5.75
6860	7.95
6875	6.95
6880	2.25
6883	22.95
68047	24.95
68488	19.95

6800=1 MHz

68B00	10.95
68B02	11.95
68B09E	11.95
68B09	11.95
68B10	5.95
68B21	5.95
68B40	19.95
68B45	19.95
68B50	5.95

68B00=2 MHz

8000

8031	29.95
8035	5.95
8039	5.95
INS-8060	17.95
INS-8073	49.95
8080	3.95
8085	4.95
8085A-2	11.95
8086	24.95
8087-3	129.00
8087-6	119.00
8088	19.95
8089	69.95
8155	6.95
8155-2	7.95
8156	6.95
8185	29.95
8185-2	39.95
8741	29.95
8748	24.95
8749	39.95
8755	24.95

MISC.

TMS99531	9.95
TMS99532	29.95
ULN2003	1.29
3242	7.95
3341	4.95
MC3470	4.95
MC3480	9.00
MC3487	2.95
11C90	13.95
95H90	7.95
2513-001 up	9.95
2513-002 low	9.95

8200

8202	24.95
8203	39.95
8205	3.50
8212	1.80
8214	3.85
8216	1.75
8224	2.25
8226	1.80
8228	3.49
8237	13.95
8237-5	15.95
8238	4.49
8243	4.45
8250	10.95
8251	3.95
8251A	4.49
8253	6.95
8253-5	7.95
8255	4.49
8255-5	5.25
8257	7.95
8257-5	8.95
8259	6.90
8259-5	7.50
8271	79.95
8272	19.95
8274	39.95
8275	29.95
8279	6.95
8279-5	7.95
8282	6.50
8283	6.50
8284	5.50
8286	6.50
8287	6.50
8288	14.95
8289	49.95
8292	14.95

JDR Microdevices

1224 S. Bascom Avenue, San Jose, CA 95128

800-538-5000 • 800-662-6279 (CA) • (408) 995-5430

FAX (408) 275-8415 • Telex 171-110

© Copyright 1985 JDR Microdevices

RETAIL STORE - 1256 S. BASCOM AVENUE

HOURS: M-W-F, 9-5 TU-TH, 9-9 SAT, 10-3

PLEASE USE YOUR CUSTOMER NUMBER WHEN ORDERING

TERMS: Minimum order $10.00. For shipping and handling include $2.50 for UPS Ground and $3.50 for UPS Air. Orders over 1 lb. and foreign orders may require additional shipping charges - please contact our sales department for the amount. CA. residents must include 6% sales tax, Bay Area and LA residents include 6½%. All merchandise is warranted for 90 days unless otherwise stated. Prices are subject to change without notice. We are not responsible for typographical errors. We reserve the right to limit quantities and to substitute manufacturer. All merchandise subject to prior sale.

HM6264P-15 8KX8 STATIC 150ns 10.25 SSI263 SPEECH SYNTHESIZER 39.95

74S00

74S00	.32	74S135	.89	74S244	2.20
74S02	.35	74S138	.85	74S251	.95
74S03	.35	74S139	.85	74S253	.95
74S04	.35	74S140	.55	74S257	.95
74S05	.35	74S151	.95	74S258	.95
74S08	.35	74S153	.95	74S260	.79
74S09	.40	74S157	.95	74S273	2.45
74S10	.35	74S158	.95	74S274	19.95
74S11	.35	74S161	1.95	74S275	19.95
74S15	.35	74S162	1.95	74S280	1.95
74S20	.35	74S163	1.95	74S283	3.29
74S22	.35	74S168	3.95	74S287	1.90
74S30	.35	74S169	3.95	74S288	1.90
74S32	.40	74S174	.95	74S289	6.98
74S37	.88	74S175	.95	74S299	7.35
74S38	.85	74S180	11.95	74S301	6.95
74S40	.35	74S181	3.95	74S373	2.45
74S51	.35	74S182	2.95	74S374	2.45
74S64	.40	74S185	16.95	74S381	7.95
74S65	.40	74S188	1.95	74S387	1.95
74S74	.50	74S189	6.95	74S399	2.95
74S85	1.99	74S194	1.49	74S412	2.98
74S86	.50	74S195	1.49	74S470	6.95
74S112	.50	74S196	1.49	74S471	4.95
74S113	.50	74S197	1.49	74S472	4.95
74S114	.55	74S201	6.95	74S474	4.95
74S124	2.75	74S225	7.95	74S570	2.95
74S132	1.24	74S226	3.99	74S571	2.95
74S133	.45	74S240	2.20	74S573	9.95
74S134	.50	74S241	2.20	87S181	16.25
				87S185	16.95

7400

7400	.19	7483	.50	74172	5.95
7401	.19	7485	.59	74173	.75
7402	.19	7486	.35	74174	.89
7403	.19	7489	2.15	74175	.89
7404	.19	7490	.35	74176	.89
7405	.25	7491	.40	74177	.75
7406	.29	7492	.50	74178	1.15
7407	.29	7493	.35	74179	1.75
7408	.24	7494	.65	74180	.75
7409	.19	7495	.55	74181	2.25
7410	.19	7496	.70	74182	.75
7411	.25	7497	2.75	74184	2.00
7412	.30	74100	1.75	74185	2.00
7413	.35	74105	1.14	74189	2.99
7414	.49	74107	.30	74190	1.15
7416	.25	74109	.45	74191	1.15
7417	.25	74110	.45	74192	.79
7420	.19	74111	.55	74193	.79
7421	.35	74116	1.55	74194	.85
7422	.35	74120	1.20	74195	.85
7423	.29	74121	.29	74196	.79
7425	.29	74122	.45	74197	.75
7426	.29	74123	.49	74198	1.35
7427	.29	74125	.45	74199	1.35
7428	.45	74126	.45	74221	1.35
7430	.19	74128	.55	74246	1.35
7432	.29	74132	.45	74247	1.25
7433	.45	74136	.50	74248	1.85
7437	.29	74141	.65	74249	1.95
7438	.29	74142	2.95	74251	.75
7439	.79	74143	4.95	74259	2.25
7440	.19	74144	2.95	74265	1.35
7442	.49	74145	.60	74273	1.95
7443	.65	74147	1.75	74276	1.25
7444	.69	74148	1.20	74278	3.11
7445	.69	74150	1.35	74279	.75
7446	.69	74151	.55	74283	2.00
7447	.69	74152	.65	74284	3.75
7448	.69	74153	.55	74285	3.75
7450	.19	74154	1.25	74290	.95
7451	.23	74155	.75	74293	.75
7453	.23	74156	.65	74298	.85
7454	.23	74157	.55	74351	2.25
7460	.23	74159	1.65	74365	.65
7470	.35	74160	.85	74366	.65
7472	.29	74161	.69	74367	.65
7473	.34	74162	.85	74368	.65
7474	.33	74163	.69	74376	2.20
7475	.45	74164	.85	74390	1.75
7476	.35	74165	.85	74393	1.35
7480	.59	74166	1.00	74425	3.15
7481	1.10	74167	2.96	74426	.85
7482	.95	74170	1.65	74490	2.55

CMOS

4000	.29	4531	.95
4001	.25	4532	1.95
4002	.25	4538	1.95
4006	.89	4539	1.95
4007	.29	4541	2.64
4008	.95	4543	1.19
4009	.39	4553	5.79
4010	.45	4555	.95
4011	.25	4556	.95
4012	.25	4558	2.45
4013	.38	4560	4.25
4014	.79	4569	3.49
4015	.39	4581	1.95
4016	.39	4582	1.95
4017	.69	4584	.75
4018	.79	4585	.75
4019	.39	45151	12.95
4020	.75	4702	12.95
4021	.79	4724	1.50
4022	.79	74C00	.35
4023	.29	74C02	.35
4024	.65	74C04	.35
4025	.29	74C08	.35
4026	1.65	74C10	.35
4027	.45	74C14	.59
4028	.69	74C20	.35
4029	.79	74C30	.35
4030	.39	74C32	.39
4034	1.95	74C42	1.29
4035	.85	74C48	1.99
4040	.75	74C73	.65
4041	.75	74C74	.65
4042	.69	74C76	.80
4043	.85	74C83	1.95
4044	.79	74C85	1.95
4046	.85	74C86	.39
4047	.95	74C89	4.50
4048	.69	74C90	1.19
4049	.35	74C93	1.75
4050	.35	74C95	.99
4051	.79	74C150	5.75
4052	1.99	74C151	2.25
4053	.79	74C154	3.25
4060	.89	74C157	1.75
4066	.39	74C160	1.19
4068	.39	74C161	1.19
4069	.29	74C162	1.19
4070	.35	74C163	1.19
4071	.29	74C164	1.39
4072	.29	74C165	2.00
4073	.29	74C173	.79
4075	.29	74C174	1.19
4076	.79	74C175	1.19
4077	.59	74C192	1.49
4078	.29	74C193	1.49
4081	.29	74C195	1.39
4082	.29	74C200	5.75
4085	.95	74C221	1.75
4086	.95	74C244	2.25
4093	.49	74C373	2.45
4094	2.99	74C374	2.45
4098	2.49	74C901	.39
4099	1.95	74C902	.85
14409	12.95	74C903	.85
14410	12.95	74C905	10.95
14411	11.95	74C906	.95
14412	12.95	74C907	1.00
14419	7.95	74C908	2.00
14433	14.95	74C909	2.75
14490	4.95	74C910	9.95
4502	.95	74C911	8.95
4503	.65	74C912	8.95
4507	1.25	74C914	1.95
4508	1.95	74C915	1.19
4510	.85	74C918	2.75
4511	.85	74C920	17.95
4512	.85	74C921	15.95
4514	1.25	74C922	4.49
4515	1.79	74C923	4.95
4516	1.55	74C925	5.95
4518	.89	74C926	7.95
4519	.39	74C927	7.95
4520	.79	74C928	7.95
4521	4.99	74C929	19.95
4522	1.25	74C930	4.95
4526	1.25	80C95	.85
4527	1.95	80C96	.95
4528	1.19	80C97	.95
4529	2.95	80C98	1.20

HIGH SPEED CMOS

A new family of high speed CMOS logic featuring the speed of low power Schottky (8ns typical gate propagation delay), combined with the advantages of CMOS: very low power consumption, superior noise immunity, and improved output drive.

74HC00

74HC: Operate at CMOS logic levels and are ideal for new, all-CMOS designs.

74HC00	.59	74HC175	.99
74HC02	.59	74HC193	1.25
74HC04	.59	74HC194	1.04
74HC08	.59	74HC195	1.09
74HC10	.59	74HC238	1.35
74HC11	.59	74HC240	1.89
74HC14	.79	74HC241	1.89
74HC20	.59	74HC242	1.89
74HC27	.59	74HC243	1.89
74HC30	.59	74HC244	1.89
74HC32	.69	74HC245	1.89
74HC51	.59	74HC251	.89
74HC74	.75	74HC257	.85
74HC75	.85	74HC259	1.39
74HC85	1.35	74HC273	1.89
74HC86	.69	74HC299	4.99
74HC93	1.19	74HC367	.99
74HC125	1.19	74HC373	2.29
74HC132	1.19	74HC374	2.29
74HC138	.99	74HC393	1.39
74HC139	.99	74HC4017	1.99
74HC151	.89	74HC4020	1.39
74HC153	.89	74HC4024	1.59
74HC154	2.49	74HC4040	1.39
74HC157	.89	74HC4049	.89
74HC161	1.15	74HC4050	.89
74HC164	1.25	74HC4060	1.29
74HC166	2.95	74HC4511	2.39
74HC174	.99	74HC4538	2.29

74HCT00

74HCT: Direct, drop-in replacements for LS TTL and can be intermixed with 74LS in the same circuit.

74HCT00	.69	74HCT175	1.09
74HCT02	.69	74HCT193	1.39
74HCT04	.69	74HCT194	1.19
74HCT08	.69	74HCT195	1.29
74HCT10	.69	74HCT238	1.49
74HCT11	.69	74HCT240	2.19
74HCT14	.89	74HCT241	2.19
74HCT20	.69	74HCT242	2.19
74HCT27	.69	74HCT243	2.19
74HCT30	.69	74HCT244	2.19
74HCT32	.79	74HCT245	2.19
74HCT51	.69	74HCT251	1.09
74HCT74	.85	74HCT257	.99
74HCT75	.95	74HCT259	1.59
74HCT85	1.49	74HCT273	2.09
74HCT86	.79	74HCT299	5.25
74HCT93	1.29	74HCT367	1.09
74HCT125	1.29	74HCT373	2.49
74HCT132	1.29	74HCT374	2.49
74HCT138	1.15	74HCT393	1.59
74HCT139	1.15	74HCT4017	2.19
74HCT151	1.05	74HCT4020	1.59
74HCT153	1.05	74HCT4024	1.79
74HCT154	2.99	74HCT4040	1.59
74HCT157	.99	74HCT4049	.99
74HCT161	1.29	74HCT4050	.99
74HCT164	1.39	74HCT4060	1.49
74HCT166	3.05	74HCT4511	2.69
74HCT174	1.09	74HCT4538	2.59

VOLTAGE REGULATORS

TO-220 CASE PACKAGE

7805T	.75	7905T	.85
7808T	.75	7908T	.85
7812T	.75	7912T	.85
7815T	.75	7915T	.85
7824T	.75	7924T	.85

TO-3 CASE PACKAGE

7805K	1.39	7905K	1.49
7812K	1.39	7912K	1.49
7815K	1.39	7915K	1.49
7824K	1.39	7924K	1.49

TO-92 CASE PACKAGE

78L05	.69	79L05	.79
78L12	.69	79L12	.79
78L15	.69	79L15	.79

OTHER VOLTAGE REGS

78M05C	5volt	½amp	TO-220	.35
LM323K	5volt	3amp	TO-3	4.95
LM338K	Adj.	5amp	TO-3	3.95
78H05K	5volt	5amp	TO-3	9.95
78H12K	12volt	5amp	TO-3	9.95
78P05K	5volt	10amp	TO-3	14.95
UA78S40	FAIRCHILD		DIP	1.95

LINEAR

LM301	.34	NE570	3.95
LM301H	.79	NE571	2.95
LM307	.45	NE590	2.50
LM308	.69	NE592	.98
LM308H	1.15	LM709	.59
LM309H	1.95	LM710	.75
LM309K	1.25	LM711	.79
LM310	1.75	LM723	.49
LM311	.64	LM723H	.55
LM311H	.89	LM733	.98
LM312H	1.75	LM741	.35
LM317K	3.95	LM741N-14	.35
LM317T	1.19	LM741H	.40
LM318	1.49	LM747	.69
LM318H	1.59	LM748	.59
LM319H	1.90	LM1014	1.19
LM319	1.25	LM1303	1.95
LM320	see7900	LM1310	1.49
LM322	1.65	MC1330	1.69
LM323K	4.95	MC1349	1.89
LM324	.59	MC1350	1.19
LM329	.65	MC1358	1.69
LM331	3.95	MC1372	6.95
LM334	1.19	LM1414	1.59
LM335	1.40	LM1458	.59
LM336	1.75	LM1488	.69
LM337T	1.95	LM1489	.69
LM337K	3.95	LM1496	.85
LM338K	3.95	LM1558H	3.10
LM339	.99	LM1800	2.37
LM340	see7800	LM1812	8.25
LM348	.99	LM1830	3.50
LM350K	4.95	LM1871	5.49
LM350T	4.60	LM1872	5.49
LM358	.69	LM1877	3.52
LM359	1.79	LM1889	1.95
LM376	3.75	LM1896	1.75
LM377	1.95	ULN2003	1.29
LM378	2.50	XR2206	3.75
LM379	4.50	LM2877	2.05
LM380	.89	LM2878	2.25
LM380N-8	1.10	LM2900	.85
LM381	1.60	LM2901	1.00
LM382	1.60	MPQ2907	1.95
LM383	1.95	LM2917	2.95
LM384	1.95	MC3487	2.95
LM386	.89	LM3900	.59
LM387	1.40	LM3905	1.25
LM389	1.35	LM3909	.98
LM390	1.95	LM3911	2.25
LM392	.69	LM3914	3.95
LM393	1.29	LM3915	3.95
LM394H	4.60	LM3916	3.95
LM399H	5.00	MC4024	3.95
NE531	2.95	MC4044	4.50
NE555	.34	RC4136	1.25
NE556	.65	RC4151	3.95
NE558	1.50	LM4250	1.75
NE564	2.95	LM4500	3.25
LM565	.99	RC4558	.69
LM566	1.49	LM13600	1.49
LM567	.89	LM13700	1.45

H=TO-5 CAN, K=TO-3, T=TO-220

RCA

CA3023	2.75	CA3083	1.55
CA3039	1.29	CA3086	.80
CA3046	1.25	CA3089	2.99
CA3059	2.90	CA3096	3.49
CA3060	2.90	CA3130	1.30
CA3065	1.75	CA3140	1.15
CA3080	1.10	CA3146	1.85
CA3081	1.65	CA3160	1.19
CA3082	1.65	CA3183	.99

TI

TL494	4.20	75365	1.95
TL496	1.65	75450	.59
TL497	3.25	75451	.39
75107	1.49	75452	.39
75108	1.49	75453	.39
75110	1.95	75454	.39
75150	1.95	75477	1.29
75154	1.95	75491	.79
75160	4.95	75492	.79
75188	1.25	75493	.89
75189	1.25	75494	.89

BI FET

TL066	.99	LF347	2.19
TL071	.79	LF351	.60
TL072	1.19	LF353	1.00
TL074	2.19	LF355	1.10
TL081	.79	LF356	1.10
TL082	1.19	LF357	1.40
TL083	1.19	LF411	1.29
TL084	2.19	LF412	1.99

SPECTRONICS CORPORATION

EPROM ERASERS

	Timer	Capacity Chip	Intensity (uW/Cm²)	
PE-14		9	8,000	$83.00
PE-14T	x	9	8,000	$119.00
PE-24T	x	12	9,600	$175.00
PL-265T	x	30	9,600	$255.00
PR-125T	x	25	17,000	$349.00
PR-320T	x	42	17,000	$595.00

TRANSISTORS

2N918	.50	2N3772	1.85
MPS918	.25	2N3903	.25
2N2102	.75	2N3904	.10
2N2218	.50	2N3906	.10
2N2218A	.50	2N4122	.25
2N2219	.50	2N4123	.25
2N2219A	.50	2N4249	.25
2N2222	.25	2N4304	.75
PN2222	.10	2N4401	.25
MPS2369	.25	2N4402	.25
2N2484	.25	2N4403	.25
2N2905	.50	2N4857	1.00
2N2907	.25	PN4916	.25
PN2907	.13	2N5086	.25
2N3055	.79	PN5129	.25
3055T	.69	PN5139	.25
2N3393	.30	2N5209	.25
2N3414	.25	2N6028	.35
2N3563	.40	2N6043	1.75
2N3565	.40	2N6045	1.75
PN3565	.25	MPS-A05	.25
MPS3638	.25	MPS-A06	.25
MPS3640	.25	MPS-A13	.40
PN3643	.25	MPS-A55	.25
PN3644	.25	MPU-131	.99
MPS3704	.15	TIP29	.65
MPS3706	.15	TIP31	.75
		TIP32	.79

IC SOCKETS

	1-99	100
8 PIN ST	.13	.11
14 PIN ST	.15	.12
16 PIN ST	.17	.13
18 PIN ST	.20	.18
20 PIN ST	.29	.27
22 PIN ST	.30	.27
24 PIN ST	.30	.27
28 PIN ST	.40	.32
40 PIN ST	.49	.39
64 PIN ST	4.25	CALL

ST=SOLDERTAIL

8 PIN WW	.59	.49
14 PIN WW	.69	.52
16 PIN WW	.69	.58
18 PIN WW	.99	.90
20 PIN WW	1.09	.98
22 PIN WW	1.39	1.28
24 PIN WW	1.49	1.35
28 PIN WW	1.69	1.49
40 PIN WW	1.99	1.80

WW=WIREWRAP

INTERFACE

8T26	1.59
8T28	1.98
8T95	.89
8T96	.89
8T97	.89
8T98	.89
DM8131	2.95
DP8304	2.29
DS8833	2.25
DS8835	1.99
DS8836	.99
DS8837	1.65
DS8838	1.30

INTERSIL

ICL7106	9.95
ICL7107	12.95
ICL7660	2.95
ICL8038	3.95
ICM7207A	5.59
ICM7208	15.95

DATA ACQ

ADC0800	15.55
ADC0804	3.49
ADC0809	4.49
ADC0816	14.95
ADC0817	9.95
ADC0831	8.95
DAC0800	4.49
DAC0806	1.95
DAC0808	2.95
DAC1020	8.25
DAC1021	7.95
DAC1022	5.95
MC1408L6	1.95
MC1408L8	2.95

EXAR

XR2206	3.75
XR2207	3.75
XR2208	3.75
XR2211	5.25
XR2240	3.25

9000

9304	.95
9316	1.00
9328	1.49
9334	2.50
9368	3.95
9401	9.95
9601	.75
9602	1.50
9637	2.95
96S02	1.95

SOUND CHIPS

76477	3.95
76488	5.95
76489	8.95
SSI-263	39.95
AY3-8910	12.95
AY3-8912	12.95
MC3340	1.49
SP1000	39.00

OPTO-ISOLATORS

4N26	1.00	MCA-7	4.25
4N27	1.10	MCA-255	1.75
4N28	.69	IL-1	1.25
4N33	1.75	ILA-30	1.25
4N35	1.25	ILQ-74	2.75
4N37	1.25	H11C5	1.25
MCT-2	1.00	TIL-111	1.00
MCT-6	1.50	TIL-113	1.75

I have had nothing but good experiences with JDR and look foward to more of the same. It's not often a company is willing to help customers to the extent JDR has.

— Stephen L. Vajo

VISA MasterCard

© Copyright 1985 JDR Microdevices

DB25S RS232 FEMALE SOLDER CUP 2.25

DB25P RS232 MALE SOLDER CUP 1.90

BARGAIN HUNTERS CORNER

SPECIAL PURCHASE!

TAXAN RGB VISION III $299.95

SUPER HI-RES RGB MONITOR
ORIGINALLY MADE FOR ACORN COMPUTER

- 12" SCREEN
- 18 MHz BANDWIDTH
- 640 x 262 PIXELS
- 25 LINES x 80 COL.
- .38mm DOT PITCH WITH BLACK MATRIX FOR A SHARP IMAGE AND HIGH CONTRAST.

NO C.O.D. ORDERS PLEASE!

ACCESSORIES

COLOR DISPLAY ADAPTOR FOR IBM PC/XT	$129.00
RGB CABLE FOR IBM	$16.95

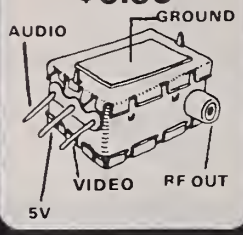
SPECIALS ENDS 6/30/85

RF MODULATOR (ASTEC UM1082)

QUANTITIES LIMITED

- PRESET TO CHANNEL 3
- USE TO BUILD TV-COMPUTER INTERFACE
- +5 VOLT OPERATION

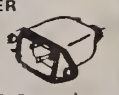
$6.95



EMI FILTER

- MAJOR MANUFACTURER
- LOW COST
- FITS LC-HP BELOW

$4.95



LINE CORDS

LC-2	2 CONDUCTOR	6 ft	.39
LC-3	3 CONDUCTOR	6 ft	.99
LC-HP	3 CONDUCTOR WITH STANDARD FEMALE SOCKET	6 ft	1.49
LC-CIR	CIGARETTE LIGHTER PLUG WITH 6 FOOT CORD		2.95

MUFFIN FANS

4.68" SQUARE	14.95
3" SQUARE	14.95

CAPACITORS

TANTALUM

1.0µf	15V	.40	.47µf	35V	.50
6.8	15V	.70	1.0	35V	.45
10	15V	.80	2.2	35V	.65
22	15V	1.35	4.7	35V	.85
.22	35V	.40	10	35V	1.00

DISC

10pf	50V	.05	560	50V	.05
22	50V	.05	680	50V	.05
25	50V	.05	820	50V	.05
27	50V	.05	.001µf	50V	.05
33	50V	.05	.0015	50V	.05
47	50V	.05	.0022	50V	.05
56	50V	.05	.005	50V	.05
68	50V	.05	.01	50V	.07
82	50V	.05	.02	50V	.07
100	50V	.05	.05	50V	.07
220	50V	.05	.1	12V	.10

MONOLITHIC

.01µf	50V	.14	.1µf	50V	.18
.047µf	50V	.15	.47µf	50V	.25

ELECTROLYTIC

RADIAL			AXIAL		
1µf	25V	.14	1µf	50V	.14
2.2	35V	.15	4.7	16V	.14
4.7	50V	.15	10	16V	.14
10	50V	.15	10	50V	.16
47	35V	.18	22	16V	.14
100	16V	.18	47	50V	.20
220	35V	.20	100	15V	.20
470	25V	.30	100	35V	.25
2200	16V	.60	220	25V	.30
			330	16V	.40
COMPUTER GRADE			500	16V	.42
			1000	16V	.60
			2200	16V	.70
44,000µf 30V 3.95			6000	16V	.85

RESISTORS

¼ WATT 5% CARBON FILM
ALL STANDARD VALUES
FROM 1 OHM TO 10 MEG OHM

50 PIECES SAME VALUE	.025
100 PIECES SAME VALUE	.02
1000 PIECES SAME VALUE	.015

BYPASS CAPS

.01 µf DISC	100/$6.00
.01 µf MONOLITHIC	100/$12.00
.1 µf DISC	100/$8.00
1 µf MONOLITHIC	100/$15.00

DIODES

1N751	5.1 VOLT ZENER	.25
1N759	12.0 VOLT ZENER	.25
1N4148	(1N914)SWITCHING	25/1.00
1N4001	50PIV 1A	12/1.00
1N4004	400PIV RECTIFIER	10/1.00
1N5402	200PIV 3A	.25
KBP02	200PIV 1.5A BRIDGE	.45
KBP04	400PIV 1.5A BRIDGE	.55
MDA801	50PIV 12A BRIDGE	1.39
MDA980-1	50PIV 12A BRIDGE	1.95
MDA980-2	100PIV 12A BRIDGE	2.25
VM48	DIP-BRIDGE	.35

LED DISPLAYS

HP5082-7760	CC	.43"	1.29
MAN-72	CA	.3"	.99
MAN-74	CC	.3"	.99
FND-357(359)	CC	.375"	1.25
FND-500(503)	CC	.5"	1.49
FND-507(510)	CA	.5"	1.49
TIL-311 4x7 HEX W/LOGIC		.270"	9.95

DIFFUSED LEDS

		1-99	100-up
JUMBO RED	T1¾	.10	.09
JUMBO GREEN	T1¾	.18	.15
JUMBO YELLOW	T1¾	.18	.15
MOUNTING HDW	T1¾	.10	.09
MINI RED	T1	.10	.09
MINI GREEN	T1	.18	.15
MINI YELLOW	T1	.18	.15
RECT RED	2x5mm	.25	.22
RECT GREEN	2x5mm	.30	.27
RECT YELLOW	2x5mm	.30	.27

HARD TO FIND "SNAPABLE" HEADERS

Can easily be snapped apart to make any size header, all with .1" centers

1x40	STRAIGHT LEAD	.99
1x40	RIGHT ANGLE	1.49
2x40	STRAIGHT LEAD	2.49
2x40	RIGHT ANGLE	2.99

SHORTING BLOCKS

SPACED AT .1" CENTERS
IDEAL FOR DISK DRIVES
OR ANY .1" HEADER

5/1.00

DIP SWITCHES

4 POSITION	.85
5 POSITION	.90
6 POSITION	.90
7 POSITION	.95
8 POSITION	.95
10 POSITION	1.29

EDGECARD CONNECTORS

S-100 ST	S-100	3.95
S-100 WW	S-100	4.95
72 PIN ST		6.95
72 PIN WW		7.95
62 PIN ST	IBM PC	4.95
50 PIN ST	APPLE	4.95
44 PIN ST		2.95
44 PIN WW		4.95

36 PIN CENTRONICS

IDCEN36	RIBBON CABLE MALE	8.95
IDCEN36 F	RIBBON CABLE FEMALE	8.95
CEN36	SOLDER CUP MALE	7.95

DIP CONNECTORS

DESCRIPTION	ORDER BY	CONTACTS								
		8	14	16	18	20	22	24	28	40
HIGH RELIABILITY TOOLED ST IC SOCKETS	AUGATxxST	.99	.99	.99	1.69	1.69	1.89	1.69	2.49	2.99
HIGH RELIABILITY TOOLED WW IC SOCKETS	AUGATxxWW	1.30	1.30	2.10	2.40	2.50	2.90	3.15	3.70	5.40
COMPONENT CARRIES (DIP HEADERS)	ICCxx	.49	.59	.69	.99	.99	99	.99	1.09	1.49
RIBBON CABLE DIP PLUGS (IDC)	IDPxx	---	.95	.95	---	---	---	1.75	---	2.95

FOR ORDERING INSTRUCTIONS SEE IDC CONNECTORS BELOW

HEAT SINKS

TO-220	SCREW ON	.35
TO-220	CLIP ON	.35
TO-3	SCREW ON	.95
TO-220	INSULATOR	10 1.00
TO-3	INSULATOR	10 1.00

SWITCHES

SPDT	MINI-TOGGLE ON-ON	1.25
DPDT	MINI-TOGGLE ON-ON	1.50
DPDT	MINI-TOGGLE ON-OFF-ON	1.75
SPST	MINI-PUSHBUTTON N.O.	.39
SPST	MINI-PUSHBUTTON N.C.	.39
BCD OUT	10 POSITION 6 PIN DIP	1.95

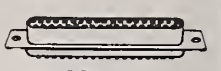
D-SUBMINIATURE

DESCRIPTION		ORDER BY	CONTACTS				
			9	15	25	37	50
SOLDER CUP	MALE	DBxxP	1.19	1.59	1.90	2.85	4.25
	FEMALE	DBxxS	1.50	1.85	2.25	3.90	5.25
RIGHT ANGLE PC SOLDER	MALE	DBxxPR	1.65	2.20	3.00	4.83	---
	FEMALE	DBxxSR	2.18	3.03	3.00	6.19	---
WIRE WRAP	MALE	DBxxPWW	1.69	2.56	3.89	5.60	---
	FEMALE	DBxxSWW	2.76	4.27	6.84	9.95	---
IDC RIBBON CABLE	MALE	IDBxxP	2.95	3.90	4.75	6.95	---
	FEMALE	IDBxxS	3.25	4.29	5.25	7.95	---
HOODS	BLACK	HOOD-B	---	---	.99	---	---
	GREY	HOODxx	.89	.99	.99	1.09	1.19

MOUNTING HARDWARE-$1.00

FOR ORDERING INSTRUCTIONS SEE IDC CONNECTORS BELOW

IDB37S



DB37S

DB25SR

TEXTOOL ZERO INSERTION FORCE SOCKETS AND RECEPTACLES

SCREWDRIVER CLAMP ECONO ZIF

LEVER CLAMP ZIF SOCKET

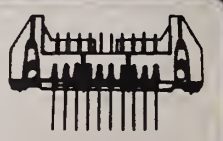
WW RECEPTACLES ZIF RECEPTACLE

TYPE	CONTACTS				
	14	16	24	28	40
ECONO ZIF	---	4.95	6.75	7.75	9.95
ZIF SOCKET	4.95	4.95	5.95	6.95	9.95
ZIF RECEPTACLE	8.25	8.75	9.75	10.50	12.75

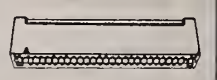
IDC CONNECTORS

DESCRIPTION	ORDER BY	CONTACTS					
		10	20	26	34	40	50
SOLDER HEADER	IDHxxS	.82	1.29	1.68	2.20	2.58	3.24
RIGHT ANGLE SOLDER HEADER	IDHxxSR	.85	1.35	1.76	2.31	2.72	3.39
WW HEADER	IDHxxW	1.86	2.98	3.84	4.50	5.28	6.63
RIGHT ANGLE WW HEADER	IDHxxWR	2.05	3.28	4.22	4.45	4.80	7.30
RIBBON HEADER SOCKET	IDSxx	.79	.99	1.39	1.59	1.99	2.25
RIBBON HEADER	IDMxx	---	5.50	6.25	7.00	7.50	8.50
RIBBON EDGE CARD	IDExx	1.75	2.25	2.65	2.75	3.80	3.95

ORDERING INSTUCTIONS INSERT THE NUMBER OF CONTACTS IN THE POSITION MARKED "xx" OF THE "ORDER BY" PART NUMBER LISTED EXAMPLE A 10 PIN RIGHT ANGLE HOLDER STYLE WOULD BE IDH10SR



IDH20W



IDE50

RIBBON CABLE

CONTACTS	SINGLE COLOR		COLOR CODED	
	1'	10'	1'	10'
10	.18	1.60	.83	7.30
16	.28	2.50	1.00	8.80
20	.36	3.20	1.25	11.60
25	.45	4.00	1.32	11.60
25	.46	4.10	1.32	11.60
34	.61	5.40	1.65	14.50
40	.72	6.40	1.92	16.80
50	.89	7.50	2.50	22.00

JDR Microdevices

1224 S. Bascom Avenue, San Jose, CA 95128
800-538-5000 • 800-662-6279 (CA) • (408) 995-5430
FAX (408) 275-8415 • Telex 171-110

RETAIL STORE - 1256 S. BASCOM AVENUE
HOURS: M-W-F, 9-5 TU-TH, 9-9 SAT, 10-3

PLEASE USE YOUR CUSTOMER NUMBER WHEN ORDERING

TERMS: Minimum order $10.00. For shipping and handling include $2.50 for UPS Ground and $3.50 for UPS Air. Orders over 1 lb. and foreign orders may require additional shipping charges - please contact our sales department for the amount. CA. residents must include 6% sales tax, Bay Area and LA residents include 6½%. All merchandise is warranted for 90 days unless otherwise stated. Prices are subject to change without notice. We are not responsible for typographical errors. We reserve the right to limit quantities and to substitute manufacturer. All merchandise subject to prior sale.

© Copyright 1985 JDR Microdevices

IBM PC PROTOTYPE CARD WITH DECODING CIRCUITRY $29.95

WIRE WRAP PROTOTYPE CARDS

FR-4 EPOXY GLASS LAMINATE WITH GOLD-PLATED EDGE-CARD FINGERS

IBM-PR2

IBM

BOTH CARDS HAVE SILK SCREENED LEGENDS AND INCLUDES MOUNTING BRACKET

IBM-PR1	WITH +5V AND GROUND PLANE	$27.95
IBM-PR2	AS ABOVE WITH DECODING LAYOUT	$29.95

S-100

P100-1	BARE - NO FOIL PADS	$15.15
P100-2	HORIZONTAL BUS	$21.80
P100-3	VERTICAL BUS	$21.80
P100-4	SINGLE FOIL PADS PER HOLE	$22.75

APPLE

P500-1	BARE - NO FOIL PADS	$15.15
P500-3	HORIZONTAL BUS	$22.75
P500-4	SINGLE FOIL PADS PER HOLE	$21.80
7060-45	FOR APPLE IIe AUX SLOT	$30.00

GENERAL PURPOSE

22/44 PIN EDGE-CARD (.156" SPACING)

P441-1	BARE - NO FOIL PADS 4.5" x 6.0"	$9.45
P441-3	VERTICAL BUS 4.5" x 6.0"	$13.95
P441-4	SINGLE FOIL PADS 4.5" x 6.0"	$14.20
P442-1	BARE - NO FOIL PADS 4.5" x 9.0"	$10.40
P442-3	VERTICAL BUS 4.5" x 9.0"	$14.20
P442-4	SINGLE FOIL PADS 4.5" x 9.0"	$13.50

36/72 PIN EDGE-CARD (.1" SPACING)

P721-1	BARE - NO FOIL PADS 4.5" x 6.0"	$9.45
P721-3	VERTICAL BUS 4.5" x 6.0"	$13.25
P721-4	SINGLE FOIL PADS 4.5" x 6.0"	$14.20
P722-1	BARE - NO FOIL PADS 4.5" x 9.0"	$10.40
P722-3	VERTICAL BUS 4.5" x 9.0"	$14.20
P722-4	SINGLE FOIL PADS 4.5" x 9.0"	$15.15

BARE GLASS BOARDS

NO EDGE-CARD FINGERS OR FOIL

P25x45	2.5" x 4.5"	$2.40
P45x65	4.5" x 6.5"	$4.70
P45x85	4.5" x 8.5"	$6.20
P45x170	4.5" x 17.0"	$11.35
P85x170	8.5" x 17.0"	$18.95

EXTENDER CARDS

IBM	$45.00
APPLE	$45.00
MULTIBUS	$86.00

DISK DRIVES

TANDON

TM 100-1 5¼" (FOR IBM) SS DD	$139.95
TM 100-2 5¼" (FOR IBM) DS DD	$159.95

MPI

MPI-B52 5¼" (FOR IBM) DS DD	$109.95

TEAC

FD-55B ½ HEIGHT DS DD	$119.95
FD-55F ½ HEIGHT DS QUAD	$139.95

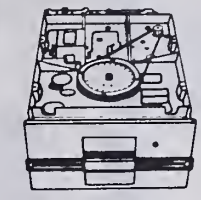
SHUGART

SA 400L 5¼" (40 TRACK) SS DD	$199.95
SA 460 5¼" (80 TRACK) DS QUAD	$199.95

8" DISK DRIVES

FD100-8 BY SIEMENS, SHUGART 801 EQUIV. SS DD	$129.00
FD200-8 BY SIEMENS, SHUGART 851 EQUIV DS DD	$180.00

TEAC FD-55B



TANDON TM100-2

JFORMAT-2 $49.95
SUPPORT FOR QUAD DENSITY DRIVES FROM TALL TREE SYSTEMS

PLEASE INCLUDE SUFFICENT AMOUNT FOR SHIPPING ON ABOVE ITEMS

DISK DRIVE CABINETS

CABINET #1 $29.95
- Fits one full height 5¼"disk drive
- Color matches Apple

CABINET #2 $79.00
- Fits one full height 5¼"disk drive
- Complete with power supply, switch, line cord, fuse and standard power connector
- Please specify Grey or Tan

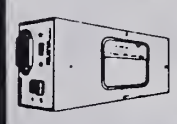
CABINET #3 $89.95
- Fits two half height 5¼"disk drives
- Complete with power supply, switch, line cord, fuse and standard power connectors

8" DISK DRIVE CABINETS ALSO AVAILABLE-PLEASE CALL

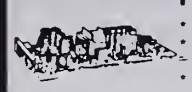
PLEASE INCLUDE SUFFICIENT AMOUNT FOR SHIPPING ON ABOVE ITEMS

SWITCHING POWER SUPPLIES

PS-IBM $175.00
- FOR IBM PC-XT COMPATIBLE
- 130 WATTS
- +5V @ 15A, +12V @ 4.2A -5V @ .5A, -12V @ .5A
- ONE YEAR WARRANTY



PS-A $49.95
- USE TO POWER APPLE TYPE SYSTEMS
- +5V @ 4A, +12V @ 2.5A -5V @ .5A, -12V @ .5A
- APPLE POWER CONNECTOR



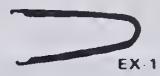
PS-3 $39.95
- AS USED IN APPLE III
- +5V @ 4A, +12V @ 2.5A -5V @ .25A, -12V @ .30A,
- 15.5" x 4.5" x 2", .884 LBS.

PS-ASTEC $19.95
- CAN POWER TWO 5¼" FDDS
- +5V @ 2.5A, +12V @ 2A -12V @ .1A
- +5V @ 5A IF +12V IS NOT USED
- 6.3" x 4.0" x 1.9"

OK INDUSTRIES

EX-1 IC EXTRACTION TOOL

- ONE PIECE METAL CONSTRUCTION
- EASILY EXTRACTS 8-24 PIN DEVICES
- LOW COST $2.19



EX-1

EX-2 IC EXTRACTION TOOL

- EXTRACTS 24-40 PIN DEVICES
- HEAVY DUTY METAL CONSTRUCTION
- GROUND LUGS FOR MOS EXTRACTIONS
- EASY ONE HAND OPERATION $12.74

IC INSERTION TOOLS

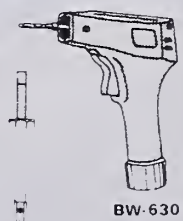
INS-1416	for 14-16 pin IC's	$5.15
MOS-1416	for 14-16 pin IC's	$10.92
MOS-2428	for 24-28 pin IC's	$10.92
MOS-40	for 40 pin IC's	$12.43

MOS series insertion tools have metal constuction and include grounding lug for CMOS applications.

INS-1416 INS-2428

BW-630 WIRE WRAP GUN

- BATTERY POWERED-USES 2 NI-CAD C CELLS(NOT INCLUDED)
- POSITIVE INDEXING
- ANTI-OVERWRAP DEVICE $41.55

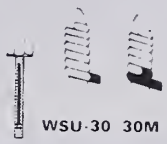


BW-630

WSU-30 WIRE WRAP TOOLS

- WRAPS, STRIPS, AND UNWRAPS
- WSU-30M WRAPS AN EXTRA TURN OF INSULATION

WSU-30 $8.84/WSU-30M $10.14

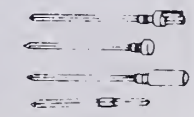


WSU-30 30M

WIRE DISPENSER

- WITH 50' ROLL OF WIRE
- BUILT IN PLUNGER CUTS WIRE
- BUILT IN STRIPPER STRIPES 1"
- REFILLABLE

WD-30 $6.50 WD-30TRI $9.50
Specify Blue, white, Yellow or Red — With 50' of each: Red, Blue and White

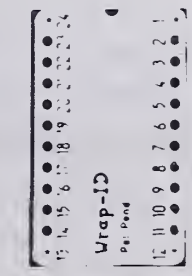


SOCKET-WRAP I.D.™

- SLIPS OVER WIRE WRAP PINS
- IDENTIFIES PIN NUMBERS ON WRAP SIDE OF BOARD
- CAN WRITE ON PLASTIC; SUCH AS IC #

PINS	PART#	PCK. OF	PRICE
8	IDWRAP 08	10	1.95
14	IDWRAP 14	10	1.95
16	IDWRAP 16	10	1.95
18	IDWRAP 18	5	1.95
20	IDWRAP 20	5	1.95
22	IDWRAP 22	5	1.95
24	IDWRAP 24	5	1.95
28	IDWRAP 28	5	1.95
40	IDWRAP 40	5	1.95

PLEASE ORDER BY NUMBER OF PACKAGES (PCK. OF)



WIRE WRAP WIRE

PRECUT AND STRIPPED

Note: 1 inch of insulation is stripped on each end. A 3.5" wire has only 1.5" of insulation.

LENGTH (INCHES)	QUANTITY 100	500	1000
2.5	1.60	4.70	8.20
3	1.60	4.70	8.20
3.5	1.65	5.00	8.90
4	1.75	5.40	9.60
4.5	1.80	5.75	10.30
5	1.85	6.10	11.00
5.5	1.90	6.50	11.75
6	2.00	6.85	12.50
6.5	2.30	7.80	14.30
7	2.40	8.20	15.05
7.5	2.50	8.55	15.85
8	2.60	8.95	16.60
8.5	2.65	9.30	17.40
9	2.70	9.80	18.15
9.5	2.80	10.00	18.95
10	2.90	10.50	19.70

PRECUT ASSORTMENT IN ASSORTED COLORS $27.50

100ea: 5.5", 6", 6.5", 7"
250ea: 2.5", 4.5", 5"
500ea: .3", 3.5", 4"

SPOOLS

100 feet	$4.30	250 feet	$7.25
500 feet	$13.25	1000 feet	$21.95

Please specify color: Blue, Black, Yellow or Red

TRANSFORMERS

FRAME STYLE

12.6V AC	2 AMP	4.95
12.6V AC CT	2 AMP	5.95
12.6V AC CT	4 AMP	7.95
12.6V AC CT	8 AMP	10.95
25.2V AC CT	2 AMP	7.95

PLUG CASE STYLE

12V AC	250ma	3.95
12V AC	500ma	4.95
12V AC	1 AMP	5.95
12V AC	2 AMP	6.95

DC ADAPTER

6, 9, 12V DC SELECTABLE WITH UNIVERAL ADAPTER 8.95

MICROCOMPUTER HARDWARE HANDBOOK

FROM ELCOMP $14.95

Over 800 pages of manufacturer's data sheets on the most commonly used IC's

- TTL - 74, 74LS & 74F
- CMOS
- Voltage regulators
- Memory - RAM, ROM, EPROM
- CPU'S - 6800, 6500, Z80, 8080, 8085 & 8086 8
- MPU Support & Interface, 6800, 6500, Z80, 8200, etc.

VISA

MasterCard

ORDER TOLL FREE
800-538-5000
800-662-6279
(CALIFORNIA RESIDENTS)

GE NICKEL-CADMIUM RECHARGABLE BATTERIES

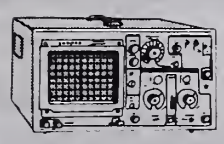
NI-CAD CHARGER PACKAGE

PRICE INCLUDES CHARGER (WALL PLUG), BATTERIES, & MODULAR BATTERY HOLDER

AAA CELLS	QTY. 2	$11.71
AA CELLS	QTY. 2	$11.71
C CELLS	QTY. 2	$13.21
D CELLS	QTY. 2	$13.21
9 VOLT	QTY. 1	$13.21

BATTERIES ONLY

AAA CELLS	PKG. 2	$6.07 pr.
AA CELLS	PKG. 1	$3.03 ea.
C CELLS	PKG. 1	$3.78 ea.
D CELLS	PKG. 1	$3.78 ea.
9 VOLT	PKG. 1	$7.57 ea.



20 MHz DUAL TRACE OSCILLOSCOPE

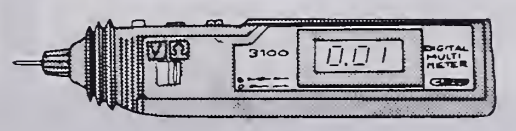
UNSURPASSED QUALITY AT AN UNBEATABLE PRICE

- BAND WIDTH- DC: DC TO 20MHz (-3db) AC: 10Hz TO 20MHz (-3db)
- SWEEP TIME- .2 μSEC TO .5 SEC DIV ON 20 RANGES
- VERT./HORZ. DEFLECTION: 5mV TO 20V DIV ON 20 RANGES
- COMPLETE MANUAL AND HIGH QUALITY HOOK-ON PROBES INCLUDED
- INPUT IMPEDANCE: 1 MEG OHM
- TV VIDEO SYNC FILTER
- X, Y AND Z AXIS OPERATION
- 110 220 VOLT 50 60Hz OPERATION
- COMPONENT TESTER
- LP CONSUMPTION—19 WATTS
- BUILT IN CALIBRATOR
- AUTOMATIC OR TRIGGERED TIMEBASE

$399.95 WITH PROBES

FULL ONE YEAR WARRANTY

MULTIMETER PEN



AUTO RANGING, POLARITY & DECIMAL!

- LARGE 3½ DIGIT DISPLAY
- DATA HOLD SWITCH FREEZES READING
- FAST, AUDIBLE CONTINUITY TEST
- LOW BATTERY INDICATOR
- OVERLOAD PROTECTION
- ONLY 1⅛" x 6¼" x ¾"
- DC VOLTS .1mV-500V
- AC VOLTS 1mV-500V
- .1 OHM-20 MEG OHMS
- WEIGHS ONLY 2.3 OUNCES
- LOW PARTS COUNT-CUSTOM 80 PIN LSI INSURES RELIABILITY
- INCLUDES MANUAL, BATTERIES, SOFT CASE, 2 PROBE TIPS, AND ALLIGATOR CLIP

ONLY $49.95

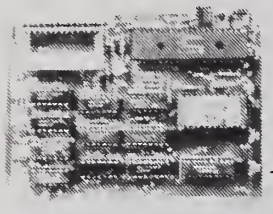
© Copyright 1985 JDR Microdevices

TEAC-FD55B DS/DD ½ HT. FOR IBM PC 119.95

MPI-B52 DS/DD FULL HT. FOR IBM PC 109.95

EPROM PROGRAMMER

FOR APPLE COMPUTERS



RP525
$79.95

NEW

- LOW COST!
- DUPLICATE OR BURN ANY STANDARD 27xx SERIES EPROM
- EASY TO USE MENU-DRIVEN SOFTWARE INCLUDED
- MENU SELECTION FOR 2716, 2732, 2732A, 2764 & 27128
- HIGH SPEED WRITE ALGORITHM
- LED INDICATORS FOR ACTIVITY
- NO EXTERNAL POWER SUPPLY REQUIRED

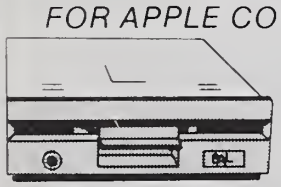
16K RAM CARD $39.95

BARE PC CARD AND INSTRUCTIONS $9.95

- 2 YEAR WARRANTY
- EXPAND YOUR 48K APPLE TO 64K
- USE IN PLACE OF APPLE LANGUAGE CARD

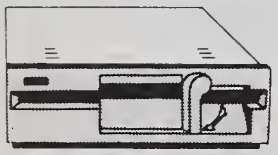
DISK DRIVES

FOR APPLE COMPUTERS



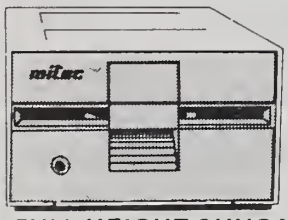
BAL-525
$139.95

- ½ HEIGHT-ALPS MECHANISM
- 100% APPLE COMPATIBLE
- FULL 1 YEAR WARRANTY



BAL-500
$169.95

- TEAC MECHANISM- DIRECT DRIVE
- 100% APPLE COMPATIBLE- 35 TRACK
- 40 TRACK WHEN USED WITH OPTIONAL CONTROLLER



MITAC AD-1
$179.95

- FULL HEIGHT SHUGART MECHANISM
- DIRECT REPLACEMENT FOR APPLE DISK II

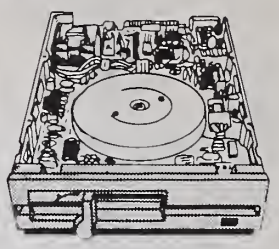
DISK DRIVE ACCESSORIES

DISK CONTROLLER CARD	$49.95
APPLE IIc ADAPTOR CABLE	$19.95

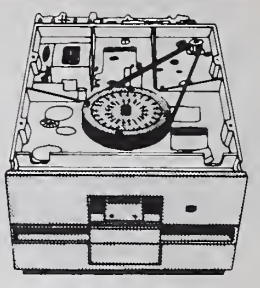
NOW FOR APPLE IIc

DISK DRIVES FOR IBM

TEAC
FD55B
$119.95



TANDON
TM100-2
$159.95



MPI
MODEL B52
$109.95

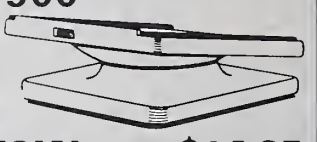
IBM ACCESSORIES

MAXIMIZER SIGMA MULTIFUNCTION CARD	$259.95
HAYES SMARTMODEM 1200B FOR IBM	$419.95
PRINTER CABLE PARALLEL 6' SHIELDED CABLE	$19.95
KRAFT JOYSTICK	$39.95

BMC MONITOR STAND

MODEL PA-900

TILTS AND SWIVELS TO PROVIDE OPTIMUM VIEWING ANGLE, REDUCES OPERATOR FATIGUE



FACTORY SPECIAL $14.95

ORDER TOLL FREE

800-538-5000
800-662-6279 (CA)

BMC BX-80 PRINTER

80 CPS DOT MATRIX PRINTER

- BI-DIRECTIONAL
- SUPERB GRAPHICS
- CENTRONICS INTERFACE

$199.95

CLOSE-OUT SPECIAL, QUANTITIES LIMITED

APPLE ACCESSORIES

VIEWMAX-80	$159.95
VIEWMAX-80e	$129.95
GRAPHMAX	$129.95
THUNDERCLOCK	$129.95
KRAFT JOYSTICK	$39.95
POWER SUPPLY	$49.95

DISKETTE FILE

$8.95 IF PURCHASED WITH 50 DISKETTES OR MORE

$9.95 IF PURCHASED ALONE

HOLDS 70 5¼" DISKETTES, WITH ROOM TO SPARE

NASHUA DISKETTES

5¼" SOFT SECTOR
DS/DD WITH HUB RINGS

BULK PACKAGED IN FACTORY SEALED BAGS OF 50. INCLUDES DISKETTE SLEEVES AND WRITE PROTECT TABS. IDEAL FOR SCHOOLS, CLUBS, AND USERS GROUPS. THIS IS A SPECIAL PURCHASE, SO QUANTITIES ARE LIMITED. THERE IS A 5 YEAR WARRANTY.

$1.39ea. QTY 250 **$1.49ea.** QTY 100 **$1.59ea.** QTY 50

NASHUA DISKETTES WERE JUDGED TO HAVE THE HIGHEST POLISH AND RECORDED AMPLITUDE OF ANY DISKETTES TESTED. (SEE "COMPARING FLOPPY DISKS", BYTE 9 84)

VERBATIM DATALIFE DISKETTES

SS/DD	SOFT SECTOR	$29.95
SS/DD	10 SECTOR HARD	$29.95
DS/DD	SOFT SECTOR	$34.95

IBM COMPATIBLE POWER SUPPLIES

130 WATT
$159.95
XT COMPATIBLE

- +5V @ 15A, +12 @ 4.2A -5 @ .5A, -12 @ .5A
- UPGRADE YOUR PC, POWERS HARD DISK
- POWER CABLES FOR 4 FDDs
- ONE YEAR WARRANTY
- SWITCH ON SIDE (FITS IBM CASE)

100 WATT
$99.95

- SWITCH ON REAR
- FOR USE IN OTHER IBM TYPE MACHINES
- AVAILABLE IN 100W OR 130W VERSIONS
- 90 DAY WARRANTY

130 WATT MODEL $129.95

JDR Microdevices

1224 S. Bascom Avenue, San Jose, CA 95128

800-538-5000 • 800-662-6279 (CA) • (408) 995-5430

FAX (408) 275-8415 • Telex 171-110

RETAIL STORE - 1256 S. BASCOM AVENUE
HOURS: M-W-F, 9-5 TU-TH, 9-9 SAT, 10-3

PLEASE USE YOUR CUSTOMER NUMBER WHEN ORDERING

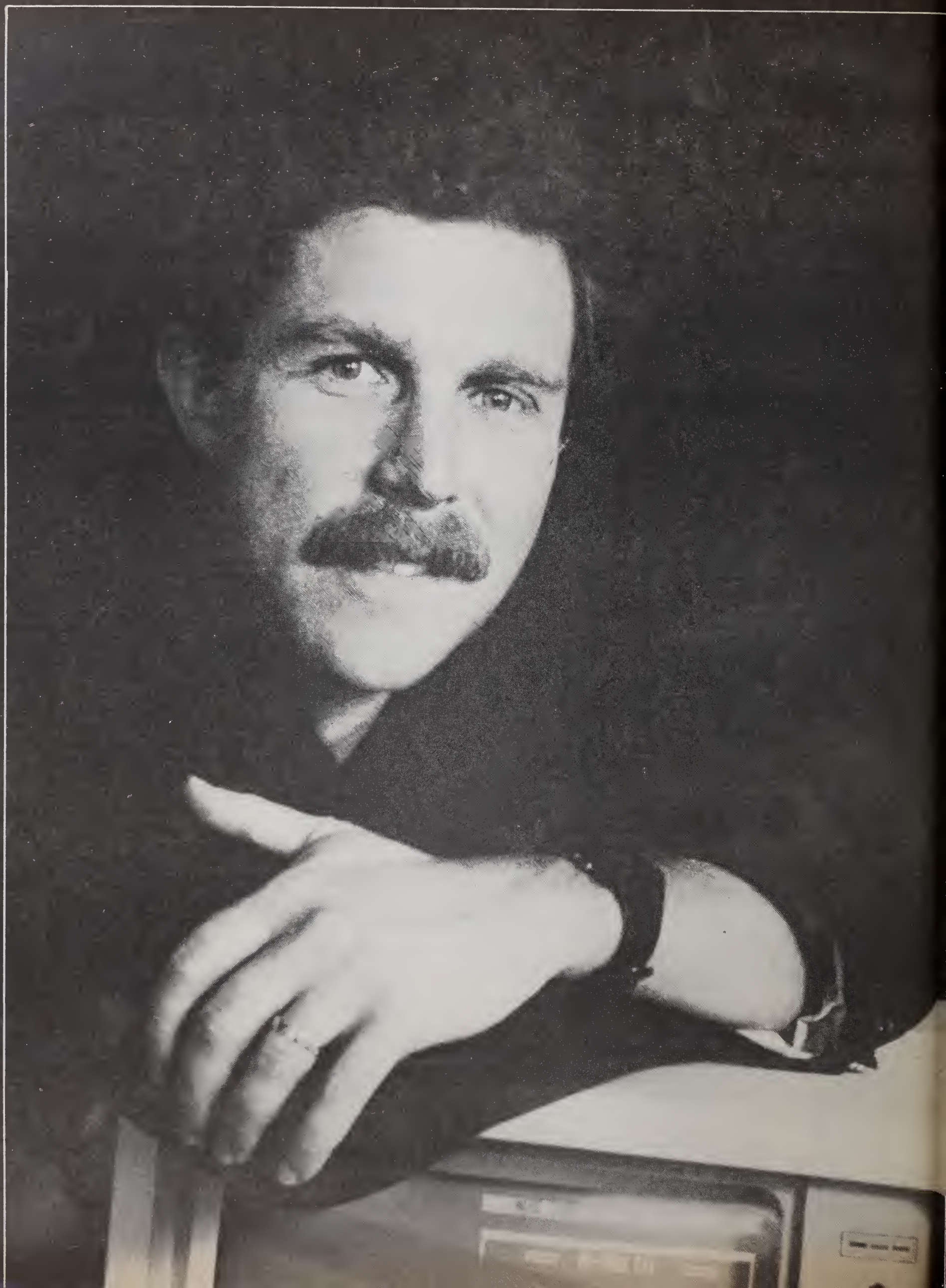
TERMS: Minimum order $10.00. For shipping and handling include $2.50 for UPS Ground and $3.50 for UPS Air. Orders over 1 lb. and foreign orders may require additional shipping charges - please contact our sales department for the amount. CA. residents must include 6% sales tax, Bay Area and LA residents include 6½%. All merchandise is warranted for 90 days unless otherwise stated. Prices are subject to change without notice. We are not responsible for typographical errors. We reserve the right to limit quantities and to substitute manufacturer. All merchandise subject to prior sale.

© Copyright 1985 JDR Microdevices

APPLE IS A TRADEMARK OF APPLE COMPUTER CO.

COMPUTER CAMPS

CAMP	PRICE, SESSION	AGE GROUP	CURRICULUM	COMMENTS
Arrowhead Lutheran Camp P.O. Drawer 11 Crest Park, CA 92326 (714) 336-2076	$270 per week, 1-wk sessions from July 21 to Aug. 9, by age. Resident.	Grades 5-8, 7-9, 9 and beyond	BASIC, LOGO, word processing, literacy, programming	Using Apple Computers 3 hours per day, with additional "access time." Open to all denominations. Camp near Lake Arrowhead.
Cali-Camp Computer Camp 117 Old Topanga Cyn. Rd. Topanga, CA 90290 (213) 455-1305	5 2-wk sessions, June 24 - Aug. 17. Resident. $395 per session.	7-14	LOGO, BASIC, word processing, games	Half-day on Apple IIe computers, the rest on outdoor activities.
Catalina Sea Camp P.O. Box 796 Avalon, CA 90704 (213) 510-1622	2 3-wk sessions, June 19 - Aug. 9. Resident. $850 per session.	12-17	BASIC, Pascal, computers in oceanography, graphics, robotics	1½ hours to "whenever" on Apple IIe's. Scuba classes included with extra fee. Camp is on Toyon Bay, Catalina Island.
Compu-Camp 153 Homestead Blvd. Mill Valley, CA 94941 (415) 381-0426	1- and 2-wk sessions, $470 per week. Resident. 15% group discount. June 23 - Aug. 9.	9-17	LOGO, BASIC, Pascal, robotics, word processing, music, graphics, voice synthesizer, assembler	7 hours per day on IIe's, special interest groups on other topics. Camp at Sonoma State University.
Computer Tutor Camp 980 Magnolia Ave. Larkspur, CA 94939 (800) 227-2866 or (415) 461-7533 in CA	1- and 2-wk sessions, June 30 - Aug. 5. Day & resident. Price range varies; 1-wk day, $350, 2-wk res., $945	10-17	BASIC, Pascal, LOGO, assembler, music, graphics, robotics, game design	4-6 hours per day on Apple and IBM computers. Camp on campus of Stanford Univ.
Computers & Soccer University of San Francisco Office of Special Progs. Ignatian Heights, San Francisco, CA 94117 (415) 666-6809 or -6848	2 1-wk sessions, Aug. 12 - 23. Day. $150 per week.	10-18	BASIC, LISP, artificial intel., simulations, games, word processing, SAT prep.	Instructor teaches ½ soccer, ½ computers (on IIe's). Appearances by local soccer stars.
DataBase Camp 6454 Valley View Road Oakland, CA 94611 (415) 339-2844	1-wk, 10-day, 2- and 3-wk sessions, resident. July 14 - Aug. 3. $295, 1-wk; $475, 10-day; $625, 2-wk, $885, 3-wk	7-15	BASIC, LOGO, Pascal, assembler, sound & graphics, word processing, robotics	Dramatic arts included in non-computer activities; 3 hours minimum on Apples. Emphasizes individualized non-"canned" teaching.
ExperCamp (formerly The Original Computer Camp) 559 San Ysidro Road Santa Barbara, CA 93108 (800) 235-6965, (805) 969-7871 in CA	2-wk sessions between June 23 - Aug. 30. Resident. $895 per session.	7-15	BASIC, LOGO, FORTH, Pascal, 6502 assembler, artificial intel., game writing, graphics, robotics	3-6 hours per day on Apple computers. Discounts for multiple children from same family.
Foothill Horizons 801 County Center Three Court Modesto, CA 95355 (209) 571-6596	3 5-day sessions, combinable, from July 8 - 26. Resident. Cost not set, was $200 last year, may be lower for county residents.	Grades 3-8	BASIC, LOGO, word processing	Run by County Department of Education. Uses Apple, TRS-80, and IBM computers. Camp is in Sonora.
Meadow Oaks Camp 23456 Mulholland Hwy. Calabasas, CA 91302 (818) 346-9153	5 sessions, 1 - 4 wks. Approx. $200 per wk or $40 per day. Includes transport.	6-7 8-15	BASIC, LOGO, Pascal, graphics, music, applications emphasis	Along with other camps, offers a "computer analysis sports camp." IIe's and Ataris. 4½ hrs on computers.
Odyssey Academic Camp 5007 Concord Blvd. Concord, CA 94521 (415) 687-6851	1-wk sessions, can be combined up to 10 wks. June 23 - Aug. 31. $385 per session. Resident.	6-18	BASIC, LOGO, assembly, DBMs, applications	A fully accredited school that can also teach English, math, etc. 3½ hrs, 6 days per wk on Apples.
Pegasus Computer Camp University Extension University of California, Davis Davis, CA 95616 (916) 752-6401	4 1-wk sessions; date and cost not established yet; was $275 per week last yr. Probably day and resident.	8-12, junior/ senior high	Programming, BASIC, LOGO, Pascal, Unix	Working on IIe's, DEC Rainbows, campus mainframes. 6 hours a day on computer.
Silicon Valley Computer Camp CompuSkil Enterprises 186 Brittan Ave. San Carlos, CA 94070 (415) 593-4636	1-, 2-, 3-wk sessions, June 23 - July 13. Resident. $475 per week.	8-17	LOGO, BASIC, Pascal, assembler, robotics, music, graphics, or indiv. study	Half-day minimum on computers. Speakers from Silicon Valley. Works closely with minority enrichment group. On University of Santa Clara campus.
YMCA Point Bonita Outdoor and Conf. Ctr. Bldg. 981, Fort Barry GGNRA Sausalito, CA 94965 (415) 331-9622	3 1-wk resident sessions, from June 23 - July 13. $220 per session. Sessions 6 days	9-14	BASIC, LOGO, robotics, games, applications, word processing.	1½ hours per day on Apple II's, Commodores, IBM PC's, with access time as desired later. Emphasizes camping activities as balance for computer classes.



ANDREW FLUEGELMAN

PC-Talk and Beyond

BY DENNIS EROKAN AND MARY EISENHART
PHOTOS BY f. STOP FITZGERALD

ONE SUSPECTS immediately that Andrew Fluegelman never stays bored for very long. Articulate and animated, he conveys a lively sense of interest in whatever new possibilities might crop up.

Consider the last few years. In 1981 Fluegelman, a book publisher by trade, got his first computer. One thing having led to another, he became, in fairly short order, the creator of the critically acclaimed telecommunications program *PC-Talk*, the instigator of the revolutionary and highly successful Freeware marketing concept, and co-founder of *PC World* and *Macworld* magazines. These days he's spending more time exploring new avenues of communications software programming and publishing, though he remains, for the moment at least, reticent about specific works-in-progress.

For his own variation on the theme of Success In The Computer World, thoughts on the PC-vs.-Macintosh controversy, and general reflections on the developing scene, read on.

How did you get into computers?

I was in the publishing business. I was an independent book publisher, and I had done about fifteen different books on all sorts of different topics — football and sushi and travel and photography — and back in 1982 decided it would be fun to do a book about computers for writers. I got a contract from Doubleday to do the book, and I went shopping for a personal computer in the summer of 1981.

The good fortune was that, as I was getting really close to making my buying decision, IBM announced its PC. I took one look at it and I just had this gut feeling — "This is what I want." And I started playing with it.

I believe I got one of the first thousand machines, and at that time there was no software that ran on it at all, not even a word proces-

sor. So all I could do was start programming in BASIC. I spent the first month doing that, and I *loved* it.

Had you ever done anything like that before?

Never touched a computer before in my life.

What kind of programs were you doing?

Well; the first thing I did was — I placed the order for the PC and then I went on a trip back East for a couple of weeks. And you know how when you're on the road you read a lot, so I took with me a book on programming in BASIC. And so I spent my first two weeks learning to program without a computer at all. That was a great help, because it really forced me to get my head into it.

And I got David Ahl's *Book of Computer Games*, and I said, "This is just what I want to do." I typed it all in. It took me a day to get the bugs out and get the thing to run. And as soon as I saw the program running I immediately started thinking, "Well, gee, I'd really like it to add up the scores, and say this, and make a little noise. . ." I looked through the book, and I'd say, "Oh, there's something I could use. . .what happens if I stick it in there?"

I'm a real believer in the Berlitz method of programming. Which is: you learn how to say "Please pass the salt," you look in the dictionary and look up the word for "pepper," stick it in there and say "Please pass the pepper," and by God, someone gives you the pepper. And you know you're making progress. Purely trial and error.

I liked it a lot. I abandoned all bodily functions for about a month.

Eventually a word processor came out, and we started working on the book. I had a co-author who at the time was using a North-Star Horizon — a CP/M machine. When we started the book we had this fantasy that we'd each write half the book and send chapters back and forth, we'd edit them, we'd really use the technology. It was very much a part of the process of doing the book.

And I discovered to my horror that the only communications software that was available for the PC was written by IBM and only allowed your computer to swap files with other PC's or IBM mainframes. This was after I'd had the computer for a couple of months. And I took one look at the code, to see whether I could rewrite it, and it was just hopeless.

So the next morning I sat down, and started out with 10 lines of BASIC code to write a communications program. And in the same way, I got that working, I said, "Gee, I'd really like to do this, and I'd like to do that, and we should have a dialing directory, and we should have some macros. . ." — and I kept just adding to it for my own use.

We eventually typeset the book using the program that I wrote. In the process I gave it to a lot of my friends, and they started using it . . . . And at the time it was the only program that let you do these things on the IBM-PC — this was in the early spring of '82. And inevitably one of my friends said, "You know, you really ought to publish that."

If I hadn't been in the publishing business for eight years, I would have gone ahead on the traditional route — find a publisher, royalties — but I'd *been* through all that, and I'd seen all the pitfalls and all the ways things can get derailed. And this was kind of a new medium, and I was still very exhilarated by it. And I said, having had all this fun, I just can't go the same publishing route that I've gone before.

And the other thing was the whole issue of copy-protection. I heard these stories that people would invest months on devising copy-protection schemes and then in three hours some kid in San Diego figured it out. And I was still just learning how to program the computer —there was no *way* I was going to figure out how to do copy-protection.

At the time KQED [the San Francisco public TV station] was having its pledge drive, and they talked about user-supported television. And in a flash — I was driving across the Golden Gate Bridge, which I think is a power point, I have more inspirations driving across the Golden Gate Bridge [laughs] — and as I was pulling into the toll plaza the word "freeware" popped into my head. And this whole idea of user-supported software: pass it around, don't make people pay for it, let them try it. . .

This was the beginning of Freeware. And I said, I'll just set it out there, encourage people to use it. If they like it, I'll ask them to send me some money. Because I really had enough of myself and my ego involved in this package that I wanted some acknowledgement from the world that this thing was worthwhile.

So I sent out the first version of the program that way. I put some notices on The Source and CompuServe: I've got this program, I wrote it, it'll do this and this, and if you want a copy—

I don't even want to have published what my original offer was, because people will inevitably read that and think that's the way you can get it now.

But I said, it's available for free, and if you like it, send me the money. And even if you *don't* like it, *still* make copies for your friends, because maybe *they'll* like it and send some money.

The response was really overwhelming. I almost got driven out of business filling orders. At the time I was still producing books, and software programming was my own late-night thing. And suddenly I was standing there all day filling orders and licking stamps and sending things out, and I had to hire someone to start doing that. It was literally driving me out of business with all this response. I was totally unprepared for it.

The other thing I learned was that while I had written the program to work very well in my own situation, once you start sending software out into the world, you start hearing about people with all sorts of crazy circumstances that you haven't anticipated at all. I think if I had tried to publish this first version of the program commercially, people would've reacted very negatively. But they didn't, because I'd sent it out in this unrestricted way. So people would write back and say, "This is great, but why don't you add this, why don't you try this?" In many cases people even helped me reprogram to deal with their situations. And I ended up calling that "freeback" instead of feedback, because it was really getting this free support back from the community.

Were you getting any money?

Yes. I *was* getting money. I remember on the first day I got a check in the mail, and I just couldn't believe it.

After about a year I collected some of the more ambitious suggestions that people were making and came out with a new version of the program, which is *PC-Talk III*, which is what I'm currently distributing.

I support two people whose business is just to support this program, fill orders, and mainly provide advice to users. Our highest cost of doing business is giving user support.

How many copies of PC-Talk *do you think are out there?*

It's very hard for me to say. I know that when we recently had a *PC World* poll in which people voted for their favorite software program in different categories, *PC-Talk* was rated just below *Crosstalk* and *SmartCom*, which are the two major commercial packages. I would guess that there's about 100,000 copies of those out there, so I've got to figure that there are about that many of mine out there as well.

I'd also guess that somewhere between one and five out of every ten people using the program have actually sent me money for it. When I go to PC shows, I always run into people and they say, "Hey, I owe you $35!"

But it's definitely been successful, and I never really anticipated that it would work out that way.

What does it do?

It's a program for the IBM personal computer and compatibles that allows you to hook your computer up to a modem and send information to another computer, and receive information from another computer. It has a lot of convenience features, which really is what most communications packages do; it has a dialing directory, it lets you set up various parameters based on who you're calling, it lets you program characters and commands that you normally type.

The amount of code that's doing the work is tiny compared to the amount of code that's just making life pleasant for you.

How important are telecommunications to you personally?

I tend to think of two kinds of people in the world: those who have the ability to telecommunicate with each other and those who

"I was driving across the Golden Gate Bridge, and as I was pulling into the toll plaza the world 'freeware' popped into my head: the whole idea of user-supported software, pass it around, don't make people pay for it, let them try it. . . ."

* SUMMER SALE *

Mail Order Electronics - Worldwide
Jameco ELECTRONICS
Serving the Computer Enthusiast Since 1974

QUALITY COMPUTER PRODUCTS FOR APPLE II, II+, *IIe*, *IIc* and Macintosh*

APPLE* MODEMS *by Prometheus*

New 300/1200 Baud 212A Telephone Modem for your Apple II, II+ and *IIe*. Just plug in — Hayes compatible!

PM1200A . . . $299.95

MAC PAC *for your Macintosh*

Includes: ProModem 1200 external modem, cable and software.

MAC PAC . . . $369.95

OPTION SPECIAL! *Lowest Price!*

Includes options processor, display and 64K buffer.

PM-Special . . $169.95

Additional Apple Products

Apple Cooling Fan
for Apple II, II+ and *IIe*
APF-1. . . . . $39.95

Switching Power Supply
for Apple II, II+ and *IIe*
KHP4007. . . . $59.95

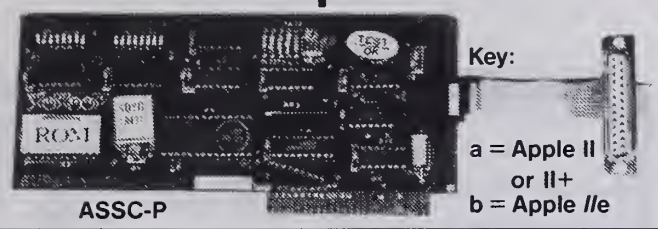
SALE!

12" Monochrome Green Monitor for APPLE II, II+, *IIe* & *IIc*

- Excellent resolution
- 80 character x 24 line display format
- Complete with tilt/ swivel monitor stand!

MON-12G $79.95

APPLE* Compatible CARDS



ASSC-P

16K RAM Card (Language Card)

The ARC-16K RAM Card allows the Apple* II and II+ computers to expand from 48K to 64K. Complete with instructions. Key: (a)

ARC-16K. $39.95

Z-80 CP/M Card

The AZ80-1 is Soft-card compatible. Used with CP/M related programs. Key: (a,b)

AZ80-1. . . . . $49.95

EPROM Burner Card

The AEB-2 allows user to program and work with standard EPROMs (2716, 2732 & 2764). Easy to use, on-board firmware. Menu contains the following options: Write, Read, Copy, Compare, Blank-Check and Monitor. Complete with instructions. Key: (a,b)

AEB-2. . . . . $69.95

80-Column Card w/Soft Switch

The A80-C is an 80-column card designed for the Apple* II and II+ computers. The card is equipped with a soft switch which allows easy hookup for any monitor. The A80-C also features inverse video capabilities. This card is similar to the Videx*** 80 column card. Complete with instructions. Key: (a)

A80-C. $74.95

Super Serial Card

The ASSC-P is a serial card with a printer mode. It generates standard RS-232C signals and is similar to the Apple* Super Serial Card. Complete with instructions. Key: (a,b)

ASSC-P. $99.95

APPLE™ Compatible 5¼" Disk Drive and Controller Card

- Uses Shugart SA390 mechanics
- 143K formatted storage
- Color matches Apple Computer
- Works with Apple Controller or other Apple-compatible controllers (ACC-1)
- Complete with connector — just plug into your disk controller card
- 35 tracks
- Size: 6"W x 3½"H x 8-9/16"D
- Wt.: 4¼ lbs.

ADD-514 (Disk Drive) $149.95

ACC-1 (Controller Card) $49.95

APPLE™ Compatible 5¼" Half-Ht. Disk Drive

- Uses Chinon Pinch-type mechanics
- 163K unformatted
- 35 tracks
- Super quiet
- Works with Apple Controllers or other compatibles (ACC-1) above
- Complete with connector — just plug into your controller
- Size: 5¾"W x 1⅝"H x 8"D
- Wt.: 4 lbs.

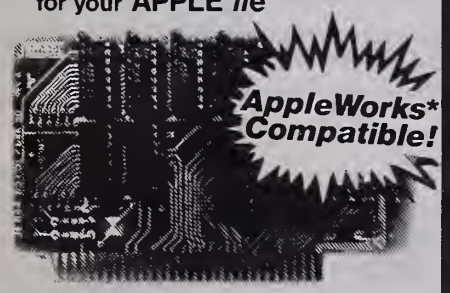
ADD-12. . . . $159.95

APPLE™ *IIc* Compatible 5¼" Half-Ht. Disk Drive

- Same specs as ADD-12 (above) except no controller necessary.

ADD-IIc. NEW! $169.95

80-Column plus 64K RAM for your APPLE *IIe**



Now you can double the memory capacity and get an 80-column display format for your APPLE *IIe** computer at an affordable price. Just plug the JE864 card into your APPLE* and expand your display to 80 characters per line. Perfect for word processing. The JE864 also features 64K bytes of additional memory to allow programming not possible with standard APPLE *IIe** computers. Complete documentation included.

Board: High density board design squeezes 64K bytes of RAM onto a 2½" x 4½" board • Fully tested to assure proper operation.

Uses: Word processing — displays 1000 more characters per screen • Extra memory allows running of extremely large programs • Ultra High Resolution Graphics capability.

JE864. . . . . $79.95

APPLE Keyboard and Case for Apple II and II+*

Special Functions!

KEYBOARD (KB-A68):
• 68 Keys • 15-Key Keypad • Direct connection with 16-pin ribbon connector • Special functions on number keys, including cursor controls, color demo, and one-touch disk catalog • Metal baseplate for durability (with 6 mounting holes) • Color (keys): white/grey • Size: 14½"L x 5½"W x 1½"H

CASE (EAEC-1):
• Accommodates KB-A68 • Pop-up lid for easy access • Fits power supply and motherboard too • Size: 15½"W x 18"D x 4¼"H

Part No.	Description	Price
KB-EA1	Apple Keyboard and Case.	$134.95
KB-A68	68-Key Apple Keyboard only.	$ 79.95
EAEC-1	Expanded Apple Enclosure Case only.	$ 59.95

Numeric/Auxiliary Keypad for your APPLE *IIe** *VisiCalc** Users!

The JE614 is a newly introduced numeric/auxiliary keypad for the APPLE *IIe.** It offers the flexibility of a 10-key pad and the convenience of 23 directly accessible functions. Screen manipulating functions make word processing a snap and cursor controls make the keypad ideal for VisiCalc** users. The JE614 Keypad is housed in a durable metal enclosure and is color-coordinated with your APPLE *IIe* computer. Operation of the keypad can begin within minutes from unpacking. Special functions include: Home, Clear, Clear to End of Screen, Scroll-Up, Scroll-Down, Tab, Delete, Left, Right, Up and Down. Each key has auto-repeat. Size: 5⅞" L x 4-3/16" W x 1¼" to 2½" Slope.

JE614. . . . . $49.95

$10.00 Min. Order - U.S. Funds Only
Calif. Residents Add 6½% Sales Tax
Shipping - Add 5% plus $1.50 Ins.
Send S.A.S.E. for Monthly Sales Flyer!

Send $1.00 Postage for your *FREE 1985 JAMECO CATALOG*
Prices Subject to Change

MasterCard — Jameco ELECTRONICS® — VISA*

Mail Order Electronics - Worldwide

1355 SHOREWAY ROAD
BELMONT, CALIFORNIA 94002
Phone Orders Welcome (415) 592-8097
Telex No. 176043

*APPLE, APPLE II, II+, *IIe*, *IIc* and Macintosh are registered trademarks of APPLE Computers
**VisiCalc is a registered trademark of Visi Corp. Inc.
***Videx is a registered trademark of Videx Inc.

Super Software Savings!

- GREAT TITLES TO CHOOSE FROM!
- CONVENIENT LOCATIONS!
- LOW EVERYDAY PRICES!
- HUGE SELECTION!

RECREATION

FOR APPLE, ATARI COMMODORE-64

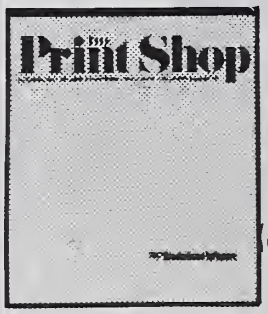
High speed color and 3D graphics provide a spectacular panoramic view as you practice takeoffs, landings and aerobatics.

$27.97 MFRS. SUG. LIST 49.95

subLOGIC

SAVE 44%

GRAPHICS



FOR APPLE

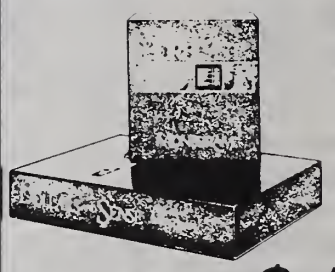
Turn your personal computer into a personal print shop. Now with only a few keystrokes, you can write, design and print like a pro.

$29.97 MFRS. SUG. LIST 49.95

Broderbund Software

SAVE 40%

PERSONAL FINANCE



DOLLARS & $ENSE WITH FORECASE FOR IBM PC

Dollars and Sense saves money by organizing your money! It can write checks, make transactions automatically, remind you to pay your bills and more!

Forecast is an outstanding tax modeling program that automatically performs tax calculations needed during the hectic tax season. It can predict and plan taxes up to five years in the future!

BUY BOTH FOR

$107.97 MFRS. SUG. LIST 179.95

BOTH ALSO AVAILABLE SEPARATELY FOR APPLE IIe & APPLE IIc

SAVE 40%

TEXT ADVENTURE

ATARI, COMMODORE-64

Discover yourself at the center of a world jam-packed with surprising twists, unique characters and original, logical, often hilarious puzzles. The hit text game based on the best-seller by Douglas Adams.

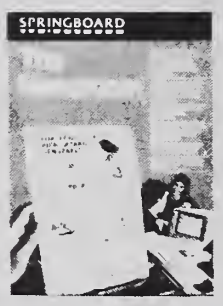
$20.97 MFRS. SUG. LIST 34.95

APPLE, IBM..... 23.97 List 39.95

INFOCOM

SAVE 40%

GRAPHICS



DISK FOR APPLE IIe APPLE IIc

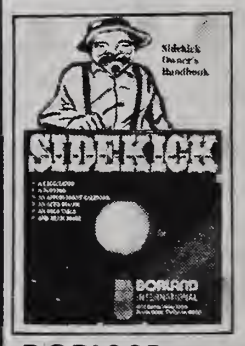
Includes more than 600 pieces of art and layout options. And when used with a printer, produces a newspaper suitable for a school, neighborhood or interoffice distribution.

$29.97 MFRS. SUG. LIST 49.95

SPRINGBOARD

SAVE 40%

UTILITY



FOR IBM PC

"1984 Software Product Of The Year" — *Infoworld Magazine*

SIDEKICK runs alongside almost all popular IBM PC programs and contains:

- Notepad
- Appointment Calendar
- Calculator
- Phone Dialer
- ASCII Table

$32.97 MFRS. SUG. LIST 54.95

BORLAND INTERNATIONAL

SAVE 40%

MUSIC

ATARI, COMMODORE-64

Imagine a record album you could actually enter, rewrite and then play back! Play three or four chords, print scores, play along with built-in prerecorded songs.

NEW LOW PRICE!

$13.97 MFRS. SUG. LIST 23.95

APPLE, IBM..... 23.97 List 39.95

HesWare

SAVE 40%

GRAPHICS UTILITY

FOR IBM PC

Like magic you can turn your IBM PC into an extraordinary color machine with Mouse Systems PC Paint.

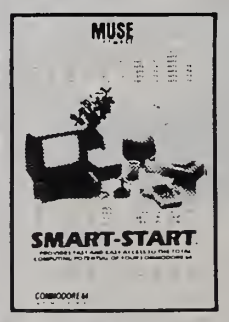
Includes software and Mouse for only . . .

Mouse Systems™

$97.97 MFRS. SUG. LIST 199.00

SAVE 51%

UTILITY



FOR COMMODORE-64

With Smart-Start the complexities of writing, saving, loading and running programs are made simple.

$23.97 MFRS. SUG. LIST 39.95

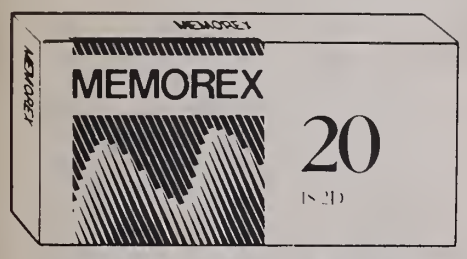
MUSE SOFTWARE

SAVE 40%

THE WHEREHOUSE

AT MOST LOCATIONS

Diskette Headquarters

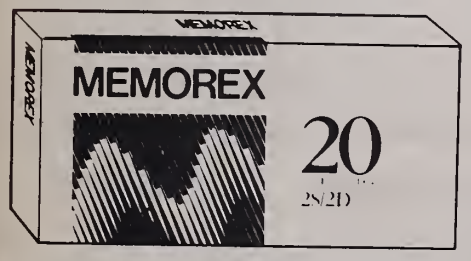


20-1S/2D 5¼" SINGLE-SIDED
DOUBLE DENSITY DISKETTES

MEMOREX
$1.10
PER DISK WHEN YOU BUY
THE 20-PACK AT 21.99

MEMOREX
10-1S 2D 5¼" SINGLE-SIDED
DOUBLE DENSITY DISKETTES
$1.00
PER DISK
IN 10-PACK!

PRICE AT REGISTER.....12.99
LESS MFR'S. REBATE..... –3.00
YOUR FINAL COST **9.99**



20-2S/2D 5¼" DOUBLE-SIDED
DOUBLE DENSITY DISKETTES

MEMOREX
$1.50
PER DISK WHEN YOU BUY
THE 20-PACK AT 29.99

MEMOREX
10-2S/2D 5¼" DOUBLE-SIDED
DOUBLE DENSITY DISKETTES
$1.60
PER DISK
IN 10-PACK!

PRICE AT REGISTER.....19.99
LESS MFR'S. REBATE..... –4.00
YOUR FINAL COST **15.99**

maxell
10-MD1 5¼" SINGLE-SIDED
DOUBLE DENSITY DISKETTES
$1.40
PER DISK WHEN YOU BUY
THE 10-PACK AT 13.99

maxell
12-MD2 5¼" DOUBLE-SIDED
DOUBLE DENSITY DISKETTES
$1.66
PER DISK WHEN YOU BUY
THE 12-PACK AT 19.99

maxell
2-MD1 5¼" SINGLE-SIDED
DOUBLE DENSITY DISKETTES
$1.50
PER DISK WHEN YOU BUY
THE 2-PACK AT 2.99

maxell
2-MD2 5¼" DOUBLE-SIDED
DOUBLE DENSITY DISKETTES
$2.00
PER DISK WHEN YOU BUY
THE 2-PACK AT 3.99

THE WHEREHOUSE

AT MOST LOCATIONS

"I'd guess that somewhere between one and five out of every ten people using the program have actually sent me money for it. I always run into people who say, 'Hey, I owe you $35!' "

don't. And I've run into it very graphically in the publishing world from whence I came.

You just quickly assume that if someone anywhere in the country has written something you can get it instantly on your computer and be able to massage it and process it and do what you want. And the thought of having to have someone mail you a manuscript and then having it arrive on paper and having to then deal with it somehow — it really seems like two different worlds.

It's hard for me to imagine dealing with information unless you have the ability to ship it around.

What kind of computers do you use now?

Personally I have a couple of PC's that're all tricked out with lots of memory and hard disks, and I have a 512K Macintosh that I personally prefer to use for writing. I find that the lack of a fan and the smaller hardware make it a more pleasant writing tool.

For really moving data and information around, the PC just has a lot of muscle, and it'll be awhile before the Macintosh does that. So I use them both.

So how did PC World *and* Macworld *come about? There you are with Freeware, and now what happens?*

Well, just at the time all that was going on, *PC* magazine got started here in San Francisco by David Bunnell. I had actually met him a few years earlier; he came to me with a book idea, and at the time my computer horizons were very dim, and we never quite clicked on that.

I ended up writing, for the first issue of *PC* magazine, a review of *EasyWriter*, which was the first word processor for the PC. And that became a kind of notorious review.. . .

You panned it?

I did pan it; it deserved panning. But it was kind of a case of "the Emperor has no clothes." It was a field that I was totally new in, no one knew who I was, I didn't know anybody, I just took this program and I said, "This is terrible," [laughs] "it's not letting me get any work done at all!" And I wrote it up.. . .

It had impact?

Well, eventually IBM recalled the program and fixed it up.

So I started writing reviews, and I enjoyed that too. I found that — again, having been in book publishing for a long time, where you're trying to define your audience, you say, "Well, we'll do a book about sushi; now, who's really going to be *reading* this?" When you're writing about computers, you really know pretty much who your readers are. At least they're defined by the kinds of problems they're dealing with. I found that really liberating and exciting, to be able to write for an audience and know exactly how you could focus on them.

So I enjoyed doing reviews, and I became an associate editor at *PC* magazine for about the eight months that it was in San Francisco. Then there was a whole flap when they got bought by Ziff-Davis; we started *PC World* and at the time David asked me to become editor-in-chief. Which I did.

Why did you all feel you had to leave Ziff-Davis?

Well, that's happened so long ago now that.. . .

Was it just working for a big company?

No, it wasn't just working for a big company. It was the way that Ziff-Davis represented themselves and treated certain people and dealt with what people believed were commitments and representations. It had to do with the way we felt, the way things were seen.

Do you look back in regret at your collective decision not to work with those guys?

No. Not at all.

Do you look back?

Occasionally. [Laughs] Not for long.

The other exciting thing that happened was, right after we started *PC World*, about four months later, we went down to Apple and we ended up seeing the Macintosh. And we decided that this was a very exciting computer, and we wanted to do another magazine about it.

So anyone who would be putting out a truly good product, that would be something that would excite us.

What do you mean by the statement that "computers can be a force for good"?

Well, I think that the easier it is for people to express themselves, and to share their views with others, that's got to be a good democratic force. It makes it easier for us all to publish our ideas, if you use "publish" in the greatest sense.

It also, hopefully, makes it easier for us to assemble the information we need to form our own views. There are many days when I feel that the quantity of information available to us maybe *clouds* our ability to make our own views — we spend so much time collecting it and deciding how we're going to file it away. But I know the intellectual excitement that the machine has caused for me; it's really been a rejuvenation. And anything that gets you that pumped up has got to be something that you can use in a good way.

"Before I got involved, I had this image of the computer nerd, and being closeted away. I *never* have been as socially involved, as interconnected with as many different kinds of people, as when I started getting involved with computers."

How did it come about, given the rivalry between IBM and Apple, that you were suddenly at Apple looking at their newest, most incredible product?

Well, for one, we never had any kind of inside relationship with IBM. I don't know of anyone who does. And we also had a very independent stance vis-a-vis IBM. Witness the review of their program — it was crummy, and we said so.

So I think that we always aligned ourselves, and most closely identified, with users of computers, looking at *their* interests. And when you see a new computer coming that promises to enhance the way people can use computers, make it more efficient, more fun —that's what really appealed to us.

It's easy to like the people at Apple, so it was easy to get into that relationship, but I know for myself and for David, who's been involved in the field for so long — we really believe in computers, we really believe that they can be a force for good. And it does get to be that kind of emotional feeling.

And I also think that the people who *do* get excited about computers and involved in all this are almost uniformly intelligent, interesting people.

One of the surprises for me — before I got involved I had this image of the computer nerd, and being closeted away and all that. I *never* have been as socially involved, as interconnected with as many different kinds of people, as when I started getting involved with computers. So I think that's another force, the ability to make connections. To get on line, talk with someone on the other side of the country, not have to worry about what they look like, how they talk or how they dress, or whatever, and really let their ideas come through. And I hope we keep sharing that.

In publishing Macworld, *how have you been affected by the marketing of Macintosh: the software, the various upgrades?*

We're actually ahead of our projections of where we thought the

PC-Talk and Freeware

The Freeware concept under which *PC-Talk* is marketed differs from public domain distribution. *PC-Talk* is copyrighted software; when a user buys the package for $35, he is granted a license to make copies of the program for others, on the condition that the copies not be sold. If the recipients of the copies like *PC-Talk* and find it useful, they are asked to send the publishers $35 in payment. The honor system has worked amazingly well.

PC-Talk is available by sending $35 to: *PC-Talk*, Headlands Communications Corporation, P.O. Box 862, Tiburon, CA 94920.

If you got a copy from your user group or friends, like it and don't know where to send your money, this is also the proper address.

Headlands will also be announcing future software developments as they become available. For the moment, Fluegelman will say only that the emphasis will be on communications applications, and that some of the software may be aimed at Macintosh users.

BRING ANY AD . . .

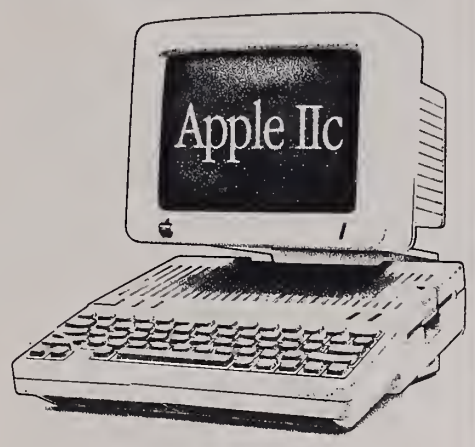
from any local dealer/any product; if we both have it in stock . . . we'll match their price.

Now every kid can have an Apple after school.

With an Apple IIc Personal Computer, your child's education doesn't have to stop when the bell rings.

The IIc can run most of the educational software written for the Apple IIe, the computer used by more schools than any other in the world.

This 128K Apple weighs just 7 1/2* lbs. and has everything built-in including a disk drive. And comes with everything kids need to start opening doors to the future-including a 4-disk course on basic computing.



- **Apple IIc • 128K • 80col • Disk Drive**
- **Operating system**

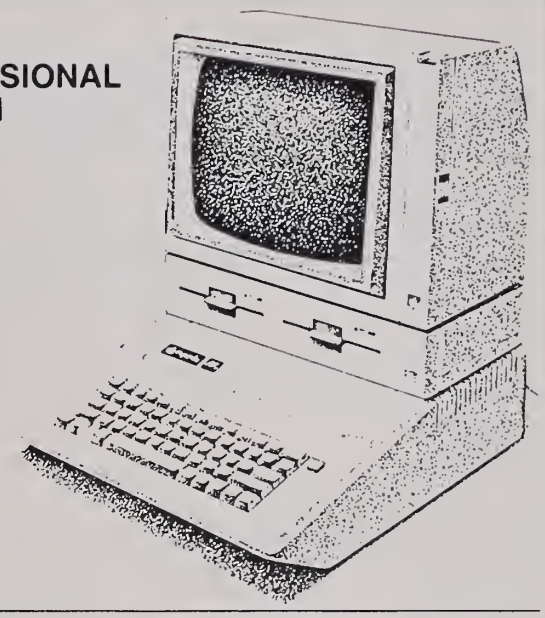
$976

*The IIc alone weighs 7.5 pounds.

APPLE PROFESSIONAL SYSTEM

- Apple IIe 128K
- 2 disk dr (duo)
- Monitor II
- Operating system
- 80 col.
- All Apple

$1356



It's the Macintosh™ 512

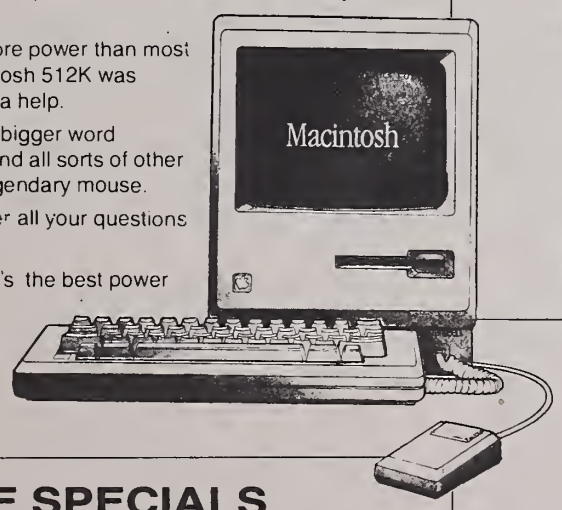
A new version of Apple's* Macintosh Personal Computer with four times the memory of The Original And every bit as easy to use.

Of course, the Macintosh 128K still gives you more power than most of the people need, most of the time. But Macintosh 512K was made for those of you who could use a little extra help.

So you can do 50% larger spreadsheets. 800% bigger word processing jobs. 1000% bigger planning jobs. And all sorts of other wonderful things. all with the click of Apple's legendary mouse.

As always, our sales staff will be happy to answer all your questions and provide plenty of service and support.

Macintosh 512K. No matter what work you do, it's the best power tool you can have.

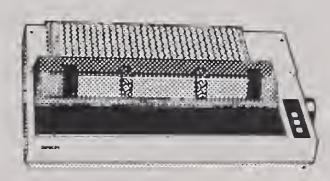


Now In Stock

Macintosh 512 Image writer printer second disc drive MacWrite/MacPaint complete system.

EPSON FX-100+

Dot-Matrix Printer



Now get SelecType™ type selector and more in a wide carriage printer

- 160 CPS, bidirectional
- 20% faster throughput
- 136 columns wide for spreadsheets and ledgers
- Print modes selectable from front control panel
- Supports LetterType™ board and cut sheet feeder options
- One-year warranty

Now $596

SOFTWARE SPECIALS

MILLIONAIRE THE STOCK MARKET SIMULATION

"PLAY THE MARKET WITH OUT THE RISK"

$46

MegaForm™

megahaus

- Design custom forms
- Include pictures from MacPaint
- Fill out forms automatically
- Use information from your Mega-filer database
- Perform calculations automatically
- Number and store forms for future reference

$256

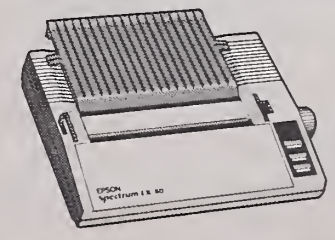
® 1985 Apple Computer Inc., Apple and the Apple logo are ® trademarks of Apple Computer Inc. Scribe and Macintosh® trademark licensed to Apple Computer Inc.

Authorized Dealer

Epson Spectrum LX-80

RATED "GP"

Great performance. Great price.



Epson's economical new printer. Ideal for personal and business printing needs

SPEED
- 100 characters per second business quality draft mode

QUALITY
- Near Letter Quality mode for typewriter-like characters

EASE-OF-USE
- Choose popular typestyles from top control panel with SelecType™ feature

VERSATILITY
- Over 160 possible typestyle combinations
- Mix text and graphics on the same line

COMPATIBILITY
- Built-in parallel interface is compatible with most computers

WARRANTY
- Epson's one year warranty

EPSON

Number one. And built like it.

AFFORDABLE COMPUTER SYSTEM INC.

HOURS: Daily 10-7, Sun. 12-5

SANTA CLARA
3331 El Camino Real
249-4221

SAN JOSE
1182 No. Capitol Ave.
251-0102

SANTA CRUZ
Cooper St. Plaza 740 Front St.
458-1644

DUBLIN
7367 Village Parkway
(415) 829-8644

magazine would be. There are more companies with products, advertising more products; we have a great reader base, they're loyal, they like what we're doing.

I think we provide a service. I think that the Mac itself is due for some criticism. There are some things that don't work great: the way the files are handled on the machine is not great. And we've come out and said that, and hopefully we can try and be a force that can accelerate the process of improving the machine.

It seems like you have to walk a fine line: on the one hand you have to criticize, but you don't want to slam the product so hard that people throw the magazine down in disgust and say, "Forget it, I'm sick of Macintosh." Do you have to worry about alienating the reader from the machine?

I think we definitely have to worry about it. It's something that we're consciously aware of. Having made the decision to publish *Macworld*, we're not going to come out with our premiere issue and say, "Well, it's a crummy computer, not worth your money." That *is* inconsistent with our stance of being a magazine to support the people who have bought into this system.

I think that the Mac *generally* has enjoyed a honeymoon period among the press, and not just among us who have a real connection to it; among the press in general, among users, among software developers. There is some quality to the machine that people respond to, and I think that they have gone out of their way, a little bit, to give it a chance to develop, because they saw the potential there.

Do you *see the potential there?*

Absolutely. I'm a real fan of the Macintosh. It's very exciting.

Do you see a difference between Macintosh people and IBM people? Users?

One would be tempted to say yes. And I think I probably *would* say yes.

The cliche of "artistic types go for the Macintosh, power users go for the IBM"?

I think that it's always dangerous to base too much on cliches. But I think that it does hold up. And I know of some of my PC friends who instantly got intrigued with the Macintosh, and some of my PC friends who still kind of ho-hum about it. People said it's more of a right-brain machine and all that — I think there is some truth to that. I think there is something to dealing in a graphical interface and a more kinetic interface — you're really *moving* information around, you're seeing it move as though it had substance. And you don't see that on a PC. The PC is very much of a conceptual machine; you move information around the way you move formulas, elements on either side of an equation. I think there's a difference.

It's been interesting — when you're involved in this business one of the questions you always get asked is — your old friends come out of the woodwork and eventually they say, "I'm thinking about buying a computer. What kind should I get?" And it's been interesting for me over the past two or three years to note the order of my friends who have come out of the woodwork asking me that question, and what my response was two years ago as opposed to this year. Two years ago all I could say was, "Well, you should probably get a PC." And now that I have the ability to say, "Well, you ought to get a Macintosh," the people who are getting in touch with me are the people that I genuinely *would* say it to. The time had to come when there *was* a Macintosh before they would ask me that question.

I think the most important thing is to realize that computers are tools, that unless you *want* to become involved with becoming an expert programmer, the main thing that a computer provides you is the ability to express yourself. And if it's letting you do that, if you now have hands on those tools, then you can be a force for good out in the world, doing the things that you used to do, that you're still doing — representing your own ideas, not changing your persona to suddenly become a "computer person."

"I think that the most important thing is to realize that computers are tools, that unless you *want* to become involved with becoming an expert programmer, the main thing that a computer provides you is the ability to express yourself."

"It's great to go along for 40 years and still find your life changing and new things happening. It makes you look forward to what's going to happen when you're 60, what's going to happen when you're 80."

And I think that may be the advantage of Macintosh.

How much time do you put into Macworld *as opposed to* PC World*?*

When we put together *Macworld* magazine I stepped away from *PC World*, took three other people from the staff, and we produced it behind closed doors. It was kind of our Manhattan Project. There was a period of four to five months where I was totally involved with getting the first issue of *Macworld* out. When that happened last January [1984], we promoted or moved some editors within our organization and I became editor-in-chief. I was involved in making sure that all the editorial products proceeded, had energy; so I was spending my time about 50-50.

This past January, I changed my title to editorial director, which is a consulting position that freed me of having the day-to-day management responsibility for running the 30 or so people in the two editorial departments. It's exclusively concerned with editorial direction of the two magazines, development of new projects, kind of keeping us on course.

Are there new projects?

We're continuing to look at everything that seems like it might be interesting. We've had two successes so far, and I think that we feel it's important to be able to duplicate those. We're certainly not hungry to start something new just for the sake of doing something new.

The other thing I'm doing now is using some of the free time personally available to me to do some more programming and to take the communications area a little bit farther. The next obvious thing for us to do is come out with a better communications program.

Us meaning PC-Talk*?*

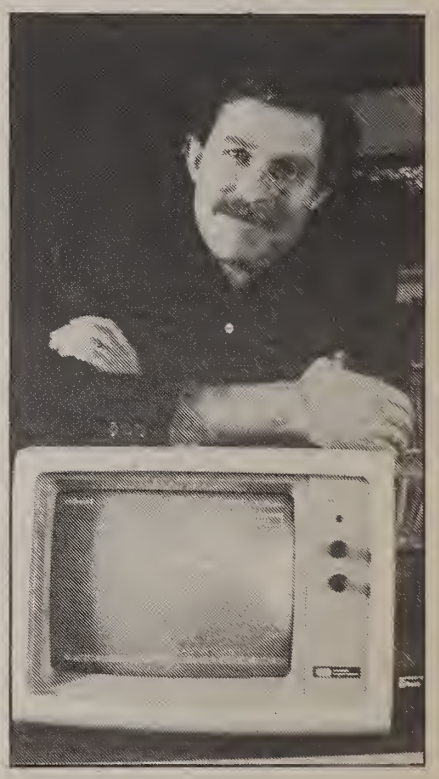
Right.

Does that mean you're severing some of your relation with the magazines?

Only in terms of time. I really just made sure that I had more personal time to do projects. I'm still as involved in the direction of *PC World* and *Macworld*.

Do you see yourself becoming a publisher of software, or is that something you wouldn't be interested in?

I think it's something I *would* want to get into. It's been interesting to realize that many of the experiences you've had in bringing books together can have their counterpart in software publishing.

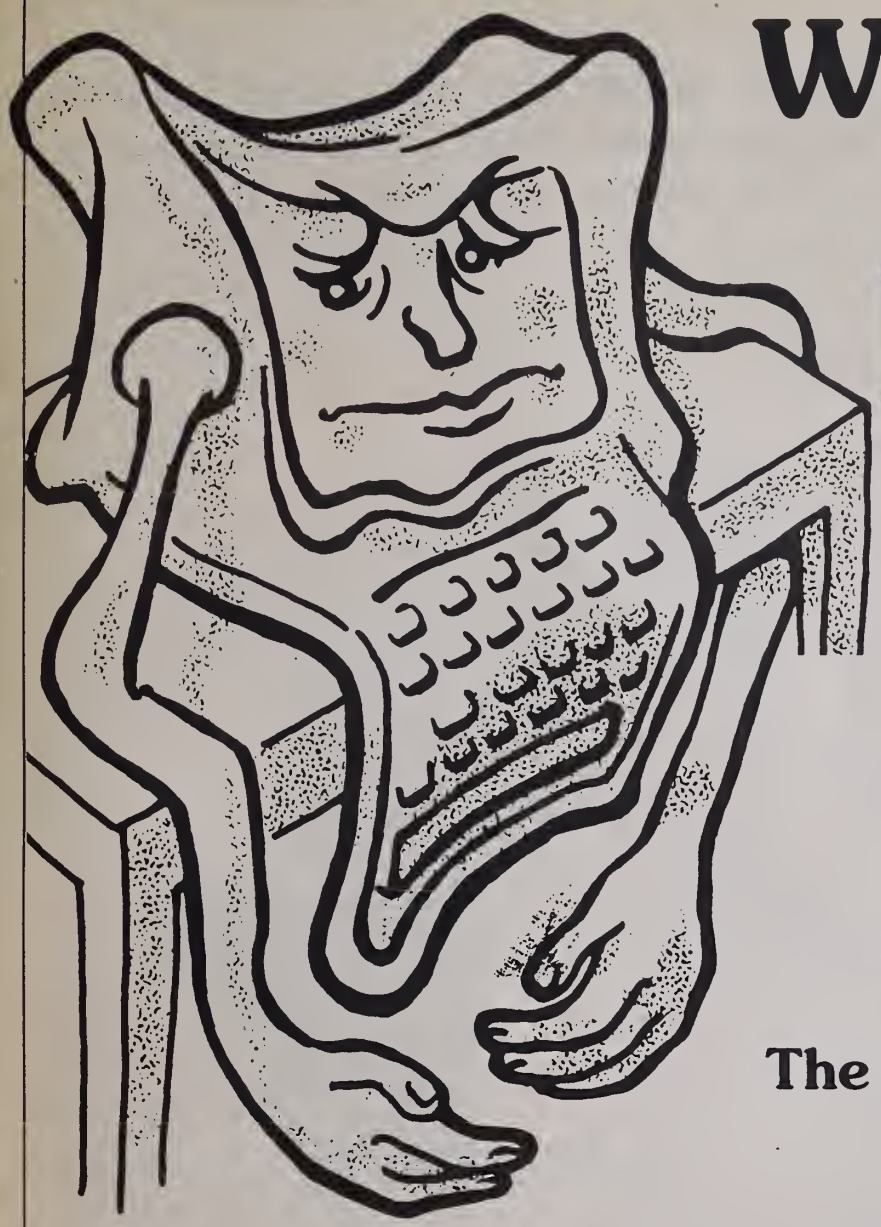


Should we print a P.O. box for you, in case any of our readers are interested?

I don't know whether I'm ready to open up my doors yet, because when I was a book packager I spent about 25% of my time listening to people with ideas for new products.

I think if some spectacular ideas came along I'd consider them. I would hope that within nine or ten months I would be in a position to more seriously consider them.

It's great to go along for 40 years and still find your life changing and new things happening. It makes you look forward to what's going to happen when you're 60, what's going to happen when you're 80. □



What Do You Do When Your Hardware Goes Soft?

You take the whole system to your:

- ☐ Computer Dealer
- ☐ Printer Dealer
- ☐ Disk Drive Dealer
- ☐ Modem Dealer
- ☐ Manufacturer
- ☐ All of the above
- ☑ None of the above

The Answer: Call (408) SERVICE
737-8423
Sunnyvale (415) 962-9955
Pleasanton (415) 462-0250

- **Fast Service:** 24 hr. service available
- **Economical Service:** We don't have the overhead of hardware retailers. Our only product is service.
- **Convenient Service:** Bring your machine to us, or we'll be happy to come to you.
- **One Stop Service:** We repair most computer systems. You no longer need to worry about separate service for the different parts of your configuration.
- **Expert Service:** Our technicians are professionals who specialize in servicing microcomputers and peripheral devices.
- **Service Programs:** Custom maintenance agreements for your unique service requirements. Let us design a computer services program to fit your specific needs.
- **Service Menu: Microcomputers;** IBM PC product line, Displaywriter, Compaq, Televideo, Corona, Osborne, Apple, AT&T 6300 and Zenith.

  Printers; Epson, C. Itoh, Okidata, Brother (Dynax), Data Products, IDS, Star Gemini, Data South, Centronics, NEC, ComRex, Xerox Diablo and Qume.

  Plus numerous add-on boards, monitors and magnetic media.

SERVICELAND
COMPUTER SERVICES

1269 W. El Camino Real • Sunnyvale, CA 94086 • (408) SER-VICE or (415) 962-9955
2340 Santa Rita Rd. Suite 2 • Pleasanton, CA 94566 • (415) 426-0250

Gail Harris:

PIONEERING PEOPLE-ORIENTED COMPUTER TRAINING

"People need an environment that involves rather than intimidates, that supports rather than scares them. We're extremely sensitive to the anxieties and resistance experienced by many people in business who are required to work with computers to survive."

Gail Harris (in background) offers some personal encouragement to a student at Training Works. Photo: Pat Johnson Studios.

By Tim Tyler

Sometimes those who inhabit the fast-paced technological world of the computer industry need a quiet and peaceful place to get away from it all. One such person is Gail Harris, Vice President of Training Works, who maintains that "the mountains" are the perfect refuge from civilization.

As it happens, Harris is sitting atop her own mountain at the moment, as Training Works is one of the largest and most successful microcomputer training centers in Northern California. Located in the heart of San Francisco's business district near Embarcadero Center, it provides instruction to more than 6,000 individuals and over 70 major companies.

Begun in 1983 as a microcomputer training division affiliated with ComputerLand in San Francisco, The Training Works finished last year by tripling its first year's figures, netting nearly $500,000. Recently incorporated as a separate company, Training Works projects net figures near 1.5 million.

Harris is unquestionably the driving force behind the creation and success of Training Works. The initial idea was hers, and she has been the company's Director of Education from the beginning. Her ability to combine good people skills with business and educational skills has been the main impetus behind the company's growth and prosperity.

"I have a bachelor's degree from UCLA in psychology," says Harris, who has always had a strong interest in the field of human behavior. She also received a master's degree in Counseling Psychology at Goddard College in Vermont, which, she says, really helped her in the

Flash TOP NAMES Flash LOW PRICES Flash LIGHTNING SERVICE

hardware

	Retail Price	Micro Flash
PLOTTERS		
Enter Computing		
6 Shooter	1095	945
Bausch & Lomb		
DMP 595	595	480
DMP 695	695	558
DT-11 Digitizer	765	678
DT-114 Digitizer	810	720
GT-CO Digitizer	2790	2232
Nicolet Zeta		
Zeta 8	5950	5295
Zeta 824	11900	10500
PRINTERS		
Citizen		
MSP 10 160CPS	499	398
MSP 15 160CPS	749	588
Diablo		
639 API	2340	1795
Epson		
FX-80	569	425
FX-100	849	589
LX-80	399	295
NEC		
P212	875	649
P312	1200	869
3550	1895	1485
Okidata		
Microline 84P	899	718
Microline 92 IBM	499	408
Microline 93 IBM	799	639
MULTIFUNCTION CARDS		
AST RESEARCH		
Six Pak Plus 64K	395	258
Megaplus w/64K	395	258
Emulex/Persyst		
Time Spectrum 0K	295	187
Orchid Technology		
Blossom w/64K	395	252
PC Turbo w/128K	1095	756
Quadrum		
Quadboard 64K	395	259
MONITORS		
PGS		
Max 12 Amber	249	179
HX 12 RGB	695	466
AMDEK		
Color 500 RGB	525	341
Color 600 RGB	599	425
Color 710 RGB	799	575
TERMINALS		
Wyse		
50	695	519
75	795	619
Kimtron		CALL
MASS STORAGE SYSTEMS		
Iomega		
Bernoulli 10/10	3695	CALL
Alloy		
Stor6300 for AT&T	3970	3470
Micro Systems International		
MT25, 25MB	1050	890
Sysgen		
Sysgen II G-20	3995	2949
Quick File 20MB	495	1199
Maynard		CALL
Media Tech		CALL
I-Square		CALL
EXPANSION CHIPS		
64K RAM Set of 9		CALL
256K RAM Set of 9		CALL
COMMUNICATIONS & EMULATION BOARDS		
Techland		CALL
IRMA		CALL
CXI		CALL
GRAPHICS CARDS		
AST RESEARCH		
Monograph Plus	595	399
Hercules		
Graphics	499	319
Color	245	169
Paradise Systems		
MultiDisplay	459	300
MODEMS		
Anchor		
Mark XII	399	259
Hayes		
Smartmodem 1200	699	459
Smartmodem 1200B w/Smartcom II	599	399
Smartmodem 2400	899	699
U.S. Robotics		
2400	895	495
Prentice		
Popcom X 100 Ext	475	380
Popcom C 100 Int	444	355

software

	Retail Price	Micro Flash
DATABASES & INTEGRATED		
Ashton Tate		
dBase III	695	385
Framework	695	385
Micro Data Base System		
Knowledgeman	500	305
Innovative Software		
Smartware System	995	495
Cosmos		
Revelation	950	720
ACCOUNTING		
BPI		
General Ledger	395	251
Sorcim/IUS		
General Ledger	595	325
OptionWare		
Multipaks	399	258
WORDPROCESSING		
Lifetree		
Volkswriter Dlx	295	159
Micropro		
Wordstar 2000	495	259
Microsoft		
Word w/Spell	375	235
Multimate International		
Multimate	495	245
SSI		
Wordperfect	495	245
Innovative Software		
Word Processor	395	279
Samna		
Word III	550	376
COMMUNICATIONS		
Microstuff		
Crosstalk	195	105
Hayes		
Smartcom II	149	93
Menlo Corporation		
In-Search	495	396
SPREADSHEETS		
Sorcim/IUS		
Supercalc 3	395	195
Microsoft		
Multiplan	195	125
Innovative Software		
Smart Spead Sheet	495	350
LANGUAGES		
Borland		
Turbo Pascal 3.0	70	49
Digital Research		
C Compiler 3.0	395	275
Microsoft		
FORTRAN Compiler	350	280
UTILITIES		
Borland		
Sidekick	55	39
Sidekick Unpro	85	59
Superkey	70	49
Funk Software		
Sideways	60	45
Bourbaki		
"1 Dir"	95	60
GRAPHICS		
Microsoft		
Chart	250	155
Graphic Communications		
Graphicwriter	395	279
BPS		
Business Graphs	350	255
Koala Technologies		
Exec Pres Kit	300	240
SCHEDULING		
Microsoft		
Project	250	155
Harvard Software		
Total Project Mgr	495	375
Breakthrough Software		
"Time Line"	395	300

CALL ABOUT OUR FULL LINE OF MACINTOSH SOFTWARE

- We welcome corporate accounts
- We accept VISA & MasterCharge
- We give quantity discounts
- We gladly provide professional technical support for all products we sell

Member: Better Business Bureau, Chamber of Commerce
Listed: Dunn & Bradstreet

415/680-1157

for product information, price quotes, technical support and California orders.

800/458-2433

VISA for outside California orders only. MasterCard

Telex 353199 MFLASH UD

Ask about our
365 DAY WARRANTY

Micro Flash Terms: Telephoned P.O.s accepted after credit approval. Check must accompany non-CC orders. $6.00 shipping charge for UPS surface. Printers, plotters and monitors higher. Add $3.00 for UPS 2nd day air. Call for info on CODs, US mail or foreign orders.

MICRO Flash™
COMPUTER SYSTEMS, INC.
1110 Burnett Avenue
Concord, CA 94520

WE WANT TO BE CURSED.

PRINTERS

STAR MICRONICS DELTA-15	$ 455.
STAR MICRONICS SG-10 (NEW)	$ 245.
STAR MICRONICS SG-15 (NEW)	$ 409.
STAR MICRONICS SD-10 (NEW)	$ 369.
STAR MICRONICS SD-15 (NEW)	$ 485.
STAR MICRONICS SR-10 (NEW)	$ 529.
STAR MICRONICS SR-15 (NEW)	$ 659.
STAR MICRONICS SB-10 (NEW)	$ CALL
NEC P2 PARALLEL W/TRACTOR	$ 535.
NEC P2 SERIAL W/TRACTOR	$ 595.
NEC P3 PARALLEL W/TRACTOR	$ 765.
NEC P3 SERIAL W/TRACTOR	$ 825.
NEC ELF 360	$ 425.
NEC 2050 DAISY-WHEEL	$ 709.
NEC 3550 DAISY-WHEEL	$1,375.
NEC 8850 DAISY-WHEEL	$1,780.
AMDEK 5025 25CPS DAISY-WHEEL	$ 489.
AMDEK 5040 40CPS DAISY-WHEEL	$ 939.
JUKI 6100 DAISY-WHEEL	$ 395.
JUKI 6300 40CPS DAISY-WHEEL	$ 707.
JUKI 6000 DAISY-WHEEL PARALLEL	$ 209.
JUKI 2200 TYPEWRITER/PRINTER	$ 309.
OKIDATA 92P DOT-MATRIX PARALLEL	$ 369.
OKIDATA 93P DOT-MATRIX PARALLEL	$ 565.
TOSHIBA P1340 PARALLEL	$ 619.
TOSHIBA P1351 PARALLEL	$1,195

TOSHIBA P351 (NEW)
288 CPS IN DRAFT, 100 CPS IN LETTER QUALITY, 240 CPS IN CONDENSED, 24-PIN OVERLAPPING, 4K BUFFER, PARALLEL/SERIAL PORTS, ACCEPTS FONT CARTRIDGES AND DOWNLOADABLE FONT DISKS.
ONLY $1,395.00

DATAPRODUCTS 8101	$ 395.
DATAPRODUCTS 8020	$ 549.
ALPHACOM ALPHAPRO 101	$ 295.

HARD DISK DRIVES/FLOPPIES

IOMEGA BERNOULLI BOX 20 MEGABYTE	$2,495.
IOMEGA BERNOULLI BOX 20MB PLUS	$2,695.
TALLGRASS 25MB/60MB TAPE BACK-UP	$2,619.
TALLGRASS 35MB/60MB TAPE BACK-UP	$3,369.
TALLGRASS 50MB/60MB TAPE BACK-UP	$3,995.
TALLGRASS 80MB/60MB TAPE BACK-up	$5,369.
TALLGRASS IBM INTERFACE	$ 169.
10MB INTERNAL W/ CONTROLLER	$ 619.
20MB INTERNAL W/ CONTROLLER	$ 829.
20MB INTERNAL FOR IBM A/T	$ 895.
DAVONG/CORVUS/ZOBEX/OTHER HARD DISKS	$ CALL
TEAC FD-55B 360K DS/DD FLOPPY	$ 109.

DISKETTES

DYSAN SS/DD	$ 21.
DYSAN DS/DD	$ 29.
VERBATIM DATALIFE SS/DD	$ 19.
VERBATIM DATALIFE DS/DD	$ 25.
TDK SS/DD	$ 18.
TDK DS/DD	$ 24.

SMORGAS "BOARDS"

HERCULES MONOCRHOME GRAPHICS ADAPTER	$ 309.
NOVA MONO HERCULES-COMPATIBLE ADAPTER	$ 179.
HERCULES COLOR GRAPHICS ADAPTER	$ 165.
AMDEK MAI MONO/COLOR ADAPTER W/64K	$ 295.
GENERIC COLOR/PRINTER ADAPTER	$ 139.
GENERIC MONOCHROME ADAPTER	$ 149.
GENERIC SERIAL CARD FOR THE IBM	$ 59.
GENERIC 256K RAM CARD - OK	$ 69.
GENERIC 512K RAM CARD - OK	$ 139.
QUADBOARD OK/64K/384K	$229./249./$369.
AST SIXPAKPLUS 64K/384K	$249./$369.
DIGIGRAPHIC MULTIFUNCTION BOARD 64K	$ 179.
TECMAR CAPTAIN BOARD OK	$ 179.
PARADISE MODULAR GRAPHICS ADAPTER	$ 289.
PARADISE MULTI-DISPLAY ADAPTER	$ 345.
STB GRAPHIX PLUS II	$ 329.
8087-3 NUMERIC MATH CO-PROCESSOR	$ 149.
64K 150NS RAM CHIP SET (JAPANESE BRAND)	$ 19.

MODEMS

BIZCOMP INTELLIMODEM-ST W/ INTELLISOFT	$ 329.
BIZCOMP INTELLIMODEM-XT W/ INTELLISOFT	$ 359.
HAYES 1200B W/SMARTCOM II	$ 369.
HAYES 1200 EXTERNAL	$ 395.
SIGNALMAN MARK XII EXTERNAL	$ 259.

NOTE: ALL BIZCOMP MODEMS ARE 100% HAYES-COMPATIBLE. THE XT MODEL IS A HALF-CARD WHICH FITS INTO THE IBM A/T OR X/T.

ACCESSORIES

KEYTRONICS KB-5150 KEYBOARD	$ 128.
KEYTRONICS KB-5151 KEYBOARD	$ 169.
GENERIC KEYTRONICS-COMPATIBLE KEYBOARD	$ 95.
WICO ANALOG JOYSTICK (FOR APPLE IIE/C)	$ 34.
KENSINGTON MASTERPIECE	$ 109.
PC MOUSE/PC PAINT BUNDLE	$ 159.
SL WABER DATAGARD SURGE PROTECTOR/ NF	$ 39.
KOALA SPEED KEY SYSTEM	$ 125.
ROLLTOP 100 DISK FILE	$ 29.
ROLLTOP 100L LOCKING DISK FILE	$ 36.
ROLLTOP 100E EXECUTIVE DISK FILE	$ 31.
KEYBOARD/DISK DRIVE COVER SET	$ 19.
IBM KEYBOARD STORAGE DRAWER	$ 89.
IBM UNDER-CARRIAGE KEYBOARD DRAWER	$ 69.
IBM VERTICAL CPU STAND	$ 49.
CRT (MONITOR) VALET	$ 89.
AMDEK COLOR MONITOR BASE	$ 29.
PRINCETON GRAPHICS MONITOR BASE	$ 29.
MONOCHROME MONITOR DUST COVER	$ 15.
PRINTER STAND - REGULAR	$ 35.
PRINTER STAND - WIDE	$ 30.
KEYBOARD EXTENSION CABLE	$ 12.
MONITOR EXTENSION CABLE	$ 19.
MONITOR POWER EXTENSION CABLE	$ 9.
Y-CONNECTOR	$ 7.

MONITORS

AMDEK V300/V300A/V310A	$129./$143./$155.
AMDEK C300 COMPOSITE COLOR	$ 258.
AMDEK 600 RGB 13"	$ 439.
AMDEK 700 RGB 13"	$ 482.
AMDEK 710 RGB 13"	$ 569.
TAXAN 116 COMPOSITE AMBER	$ 120.
TAXAN 122 MONOCHROME AMBER	$ 137.
TAXAN 410 RGB COLOR	$ 316.
TAXAN 420 HI-RES RGB COLOR	$ 439.
TAXAN 440 ULTRA HI-RES RGB	$ 569.
PRINCETON GRAPHICS MAX-12E MONOCHROME	$ 179.
PRINCETON GRAPHICS HX-12 RGB COLOR	$ 439.
QUADRAM AMBERCHROME	$ 169.
QUADRAM QUADCRHOME I (SAME AS HX-12)	$ 439.
SAMSUNG TTL MONOCHROME	$ 109.
FORTIS (BROTHER) FC-10 RGB	$ 389.
WYSE GREEN TTL MONITOR	$ 195.

PRINTER RIBBONS

EPSON MX/RX/FX-80	$ 29./6
EPSON MX/RX/FX-100	$ 44./6
OLYMPIA COMPACT NP	$ 29./6
NEC 5500/7700 SERIES (NYLON)	$ 29./6
NEC 5500/7700 SERIES (MULTI/STRIKE)	$ 27./6
NEC 8023A	$ 29./6
DIABLO 630 SERIES	$ 22./6
JUKI 6100	$ 12./6
OKIDATA 90 SERIES	$ 15./6
OKIDATA 84 SERIES	$ 22./6

IBM SOFTWARE

FRAMEWORK OR dBASE III
ONLY $369 EACH

WORD PERFECT 4.0 (IBM OR TI)	$ 295.
SIDEWAYS FOR APPLE OR IBM (FUNK SOFT.)	$ 45.
PRINTWORKS (SOFTSTYLE)	$ 49.

COPYWRITE
BACKS-UP ALL IBM PC SOFTWARE WITHOUT ANY EXCEPTION, INCLUDING dBASE III, SYMPHONY, FRAMEWORK, AND ALL OTHER PROLOK DISKS.
ONLY $50.00

COPY II PC V2.4	$ 29.
COPY II MAC (FOR THE MACINTOSH)	$ 29.
COPY II PLUS (FOR THE APPLE)	$ 29.
FLIGHT SIMULATOR (MICROSOFT)	$ 34.
FLIGHT SIMULATOR (SUB-LOGIC) FOR APPLE	$ 39.
MIND PROBER (ALSO FOR MAC OR APPLE)	$ 29.

ZERO DISK
ALLOWS YOU TO RUN COPY-PROTECTED SOFTWARE FROM YOUR HARD DISK W/O HAVING THE SYSTEM DISK IN THE FLOPPY DRIVE!!!
ONLY $75.00

MANAGING YOUR MONEY (MECA)	$ 119.
TAX WIZARD (GAMMA)	$ 49.
SIDEKICK	$ 39.
INTUIT INTEGRATED SOFTWARE	$ 69.
NORTON UTILITIES 2.01	$ 55.
TURBO PASCAL	$ 39.
TURBO PASCAL W/ 8087 SUPPORT	$ 69.
TURBO PASCAL HOLIDAY PAK	$ 79.

SCI/TECH COMPUTER SYSTEMS

"DETERMINED TO BE BEST — DESTINED TO BE FIRST"

STORE HOURS
MON.-FRI. 10:00 to 7:30
SATURDAYS 11:00 to 5:00

. . BY THE COMPETITION

ASK ABOUT OUR INVENTORY CLEARANCE ON ALL EPSON PRINTERS. WE ARE DROPPING THIS ENTIRE PRINTER LINE.

SUPER PACKAGE SPECIALS

PACKAGE #1
IBM PC 640K COLOR COMMUNICATIONS SYSTEM

- IBM 256K, 2 360K DS/DD FLOPPIES, KEYBOARD
- DOS 2.1
- CHOICE OF TAXAN 420, PGS HX-12, OR AMDEK 600 HIGH RESOLUTION RGB COLOR MONITORS
- AMDEK MAI MONOCHROME/COLOR GRAPHICS ADAPTER WITH 64K USER MEMORY TO UPGRADE SYSTEM TO 320K
- MULTIFUNCTION BOARD WITH PARALLEL PRINTER PORT, SERIAL PORT, GAME PORT, CLOCK/CALENDAR, RAM DISK, PRINT SPOOLER, AND 320K RAM TO UPGRADE ENTIRE SYSTEM TO 640K TOTAL MEMORY
- CHOICE OF FRAMEWORK INTEGRATED SOFTWARE OR DBASE III DATABASE MANAGEMENT SYSTEM
- CHOICE OF OKIDATA 92P DOT-MATRIX GRAPHICS PRINTER OR STAR MICRONICS SD-10 DOT-MATRIX, LETTER QUALITY PRINTER
- PRINTER CABLE
- BIZCOMP INTELLIMODEM-XT 1200-BAUD INTERNAL MODEM WITH INTELLISOFT COMMUNICATIONS SOFTWARE
- MODEM CABLE
- COPYWRITE (SOFTWARE UTILITY TO BACK-UP ALL COPY-PROTECTED SOFTWARE TO A FLOPPY DISK)
- MONITOR TILT/SWIVEL BASE
- SURGE SUPPRESSOR & NOISE FILTER

ONLY $3,819.00

PACKAGE #2
IBM PC 640K MONOCHROME COMMUNICATIONS SYSTEM

- IBM PC 256K, 360K DS/DD FLOPPIES, KEYBOARD
- DOS 2.1
- CHOICE OF AMDEK 310A, PGS MAX-12, OR TAXAN 122 HIGH RESOLUTION MONOCHROME MONITORS
- AMDEK MAI MONOCHROME/COLOR GRAPHICS ADAPTER WITH 64K USER MEMORY TO UPGRADE SYSTEM TO 320K
- AST MULTIFUNCTION BOARD WITH PARALLEL PRINTER PORT, SERIAL PORT, GAME PORT, CLOCK/CALENDAR, RAM DISK, PRINT SPOOLER, AND 320K RAM TO UPGRADE ENTIRE SYSTEM TO 640K TOTAL MEMORY
- CHOICE OF FRAMEWORK INTEGRATED SOFTWARE OR DBASE III DATABASE MANAGEMENT SYSTEM
- CHOICE OF OKIDATA 92P DOT-MATRIX GRAPHICS PRINTER OR STAR MICRONICS SD-10 DOT-MATRIX, LETTER QUALITY PRINTER
- PRINTER CABLE
- BIZCOMP INTELLIMODEM-XT 1200-BAUD INTERNAL MODEM WITH INTELLISOFT COMMUNICATIONS SOFTWARE
- MODEM CABLE
- COPYWRITE (SOFTWARE UTILITY TO BACK-UP ALL COPY-PROTECTED SOFTWARE TO A FLOPPY)
- MONITOR TILT/SWIVEL BASE
- SURGE PROTECTOR & NOISE FILTER

ONLY $3,539.00

PACKAGE #3
IBM PC 640K/10MB HARD DISK COLOR COMMUNICATIONS SYSTEM

EXACT SAME SYSTEM AS PACKAGE#1,EXCEPT WITH 10MB INTERNAL HARD DISK, AND ZERO DISK (SOFTWARE UTILITY PACKAGE TO ALLOW BACK-UP OF COPY-PROTECTED SOFTWARE TO THE HARD DISK) INSTEAD OF COPYWRITE

ONLY $4,529.00

PACKAGE #4
IBM PC 640K/10MB HARD DISK MONOCHROME COMMUNICATIONS SYSTEM

EXACT SAME SYSTEM AS PACKAGE #2, EXCEPT WITH 10MB INTERNAL HARD DISK, AND ZERO DISK (SOFTWARE UTILITY PACKAGE TO ALLOW BACK-UP OF COPY-PROTECTED SOFTWARE TO THE HARD DISK) INSTEAD OF COPYWRITE

ONLY $4,249.00

PACKAGE #5
IBM PC 320K COLOR COMMUNICATIONS SYSTEM

- IBM PC 256K, 2 360K DS/DD DRIVES, KEYBOARD
- DOS 2.1
- CHOICE OF TAXAN 420, AMDEK 600, OR PGS HX-12 RGB COLOR MONITORS
- AMDEK MAI MONOCHROME/COLOR GRAPHICS ADAPTER WITH 64K USER MEMORY TO UPGRADE ENTIRE SYSTEM TO 320K MEMORY
- INTUIT INTEGRATED SOFTWARE
- CHOICE OF OKIDATA 92P DOT-MATRIX GRAPHICS PRINTER OR STAR MICRONICS SD-10 DOT-MATRIX, LETTER QUALITY PRINTER
- PRINTER CABLE
- BIZCOMP INTELLIMODEM-XT 1200-BAUD INTERNAL MODEM WITH INTELLISOFT COMMUNICATIONS SOFTWARE
- MODEM CABLE
- COPYWRITE (SOFTWARE UTILITY TO BACK-UP ALL COPY-PROTECTED SOFTWARE TO A FLOPPY)
- MONITOR TILT/SWIVEL BASE
- SURGE SUPPRESSOR & NOISE FILTER

ONLY $3,179.00

PACKAGE #6
IBM PC 320K MONOCHROME COMMUNICATIONS SYSTEM

- IBM PC 256K, 2 360K DS/DD FLOPPIES, KEYBOARD
- DOS 2.1
- CHOICE OF AMDEK 310A, TAXAN 122, OR PGS MAX-12 HIGH RESOLUTION MONOCHROME MONITORS
- AMDEK MAI MONOCHROME/COLOR GRAPHICS ADAPTER WITH 64K USER MEMORY TO UPGRADE SYSTEM TO 320K ENTIRE SYSTEM RAM MEMORY
- INTUIT INTEGRATED SOFTWARE
- CHOICE OF OKIDATA 92P DOT-MATRIX GRAPHICS PRINTER OR STAR MICRONICS SD-10 DOT-MATRIX, LETTER QUALITY PRINTER
- PRINTER CABLE
- BIZCOMP INTELLIMODEM-XT 1200-BAUD INTERNAL MODEM WITH INTELLISOFT COMMUNICATIONS SOFTWARE
- MODEM CABLE
- COPYWRITE (SOFTWARE UTILITY TO BACK-UP ALL COPY-PROTECTED SOFTWARE TO A FLOPPY)
- MONITOR TILT/SWIVEL BASE
- SURGE PROTECTOR & NOISE FILTER

ONLY $2,899.00

SUPER MONTHLY SPECIAL

COLUMBIA 512K/20MB HARD DISK SUPER COMMUNICATIONS PACKAGE — ONLY $5,795.00

COLUMBIA DESKTOP W/2 360K FLOPPIES, 20MB HARD DISK, AND 128K RAM, AST SIXPAKPLUS W/ PARALLEL PORT, SERIAL PORT, GAME PORT, CLOCK, CALENDAR, RAM DISK, PRINT SPOOLER, AND 384K RAM TO UPGRADE ENTIRE SYSTEM TO 512K MEMORY, HAYES 1200B INTERNAL MODEM, SMARTCOM II COMMUNICATIONS SOFTWARE, AMDEK 600 HIGH-RESOLUTION RGB COLOR MONITOR, AMDEK TILT/SWIVEL MONITOR BASE, OKIDATA 93P WIDE-CARRIAGE PRINTER W/ IBM PLUG-N-PLAY, WIDE-CARRIAGE PRINTER STAND, PRINTER CABLE, COPYWRITE (SOFTWARE UTILITY TO BACK-UP COPY-PROTECTED SOFTWARE), ZERO DISK (SIMILAR TO COPYWRITE, EXCEPT WORKS ON THE HARD DISK), COMPUGARD CPP-12 SURGE PROTECTOR & NOISE FILTER, FIVE (5) BOXES TDK DS/DD DISKETTES, dBASE III, FRAMEWORK, BONUS APPLICATIONS SOFTWARE VALUED AT $2,500, INCLUDING PERFECT WRITER, PERFECT CALC, FAST GRAPHS, HOME ACCOUNTANT, ETC., TOTAL IBM COMPATIBILITY

1501 EL CAMINO REAL
BELMONT, CA 94002

(415) 591-1663

WE WILL TRY TO BEAT ANY ADVERTISED PRICE FOR ANY COMPUTER SYSTEM, ACCESSORY, OR PERIPHERAL FROM ANY DEALER IN THE WHOLE UNITED STATES!!! AND WE WILL MOST PROBABLY SUCCEED!!!

TERMS:
1. ALL PRICES REFLECT A CASH DISCOUNT OF 3%.
2. ADD 3% FOR VISA OR MASTERCARD.
3. FOR MAIL ORDER, ADD $15.00 FOR COMPUTERS, $10.00 FOR MONITORS, PRINTERS, AND HARD DISKS. OTHERWISE, ADD ONLY $5.00 PER ITEM!
4. CASHIER'S CHECKS ONLY FOR MAIL ORDER, REGARDLESS OF AMOUNT.
5. ADD 3% TO TOTAL AMOUNT FOR ALL COD ORDERS.
6. ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE.
7. CALL FOR CURRENT PRICES. THEY MAY HAVE JUST DECREASED!!!

IF THESE COMPUTER PRICES DON'T BLOW-OUT THE COMPETITION, NOTHING ELSE WILL!!!!

COMPAQ PORTABLE 256K/2 DRIVES	**$1,995**
COMPAQ PORTABLE 256K/1 FLOPPY/10MB HD	**$2,995**
AMQUTE I PORTABLE 256K/1 DRIVE	**$1,495**
AMQUTE II PORTABLE 256K/2 DRIVES	**$1,595**
AMQUTE III PORTABLE 256K/1 FLOPPY/10MB	**$2,395**
SANYO 775 RGB PORTABLE 256K/2 DRIVES	**$1,895**

SANYO 555-2 PACKAGE SPECIAL
256K RAM, 2 DS/DD 360K DRIVES, 1 AMBER MONITOR,
DOS 2.11, GW BASIC, WORDSTAR, CALCSTAR,
EASY-WRITER, JUKI 6000 DAISY-WHEEL
PRINTER W/ CABLE
ONLY $1,445.00

IBM PC 256K/2 FLOPPIES	**$1,519**
IBM PC 256K/1 FLOPPY/10MB HARD DISK	**$1,979**
IBM PC 256K/2 FLOPPIES/10MB HARD DISK	**$2,069**
IBM PC 256K/1 FLOPPY/20MB HARD DISK	**$2,119**
IBM PC 256K/2 FLOPPIES/20MB HARD DISK	**$2,209**
IBM XT 256K/1 FLOPPY	**$1,949**
IBM XT 256K/2 FLOPPIES	**$2,049**
IBM XT 256K/1 FLOPPY/10MB HARD DISK	**$2,489**
IBM XT 256K/2 FLOPPIES/10MB HARD DISK	**$2,579**
IBM XT 256K/1 FLOPPY/20MB HARD DISK	**$2,629**
IBM XT 256K/2 FLOPPIES/20MB HARD DISK	**$2,719**
WYSE PC 256K/2 FLOPPIES	**$1,495**
WYSE PC 256K/1 FLOPPY/10MB HARD DISK	**$2,089**

NOTE: THE AMQUTE PORTABLE HAS MORE FEATURES THAN A COMPAQ, COMES WITH AN AMBER SCREEN & A FULL 90-DAY WARRANTY, AND IS MUCH MORE REASONABLY-PRICED. SO WHY BUY A COMPAQ???

TURN THIS PAGE TO SEE OUR OTHER SUPER PRICES ON PERIPHERALS!

SCI/TECH COMPUTER SYSTEMS
1501 EL CAMINO REAL
BELMONT, CA 94002
STORE HOURS
MON.-FRI. 10:00 to 7:30
SATURDAYS 11:00 to 5:00
(415) 591-1663

"When people are faced with the frustrations of trying to keep up with their regular workload and learning to use a computer at the same time, it can put undue stress on employees. The end result is often a loss of productivity."

field of corporate training. She adds, "The combination of being a woman and having a background in psychology has enabled me to put a distinctive stamp on Training Works."

The idea of forming Training Works was partly due to Harris' own frustrations in learning to use software. "I was learning to use an Osborne, *WordStar*, *SuperCalc*, and *dBase* from the manuals. I became very frustrated," she explains, "and realized there must be a lot of other people out there like me." As a result, she adds, the purpose of Training Works is "to create a learning environment that is emotionally supportive. When people begin to confront the computer, a strong dose of old-fashioned patience and understanding goes a long way to help demystify computer jargon and translate it into practical information that is easy to learn and easy to use. That's really why our training works."

She continues, "We discovered that people need an environment that involves rather than intimidates, that supports rather than scares them. Training Works is extremely sensitive to the anxieties and resistance experienced by many people in business who are required to work with computers to survive."

An earlier experience at a Bay Area department store had given Harris a strong sense of just how intimidating computer training could be. "I had worked there for three years beginning in 1979 as the Director of Training and Development," she recalls. "In 1982, the store decided to install a mainframe which affected everybody and everything including the payroll, the time-keeping, and the merchandising. People were affected by the change because they were used to doing things in a particular way. I couldn't believe how this new system affected everyone. When people are faced with the frustrations of trying to keep up with their regular daily workload and learning to use a computer at the same time, it can put undue stress on employees. The end result is often a loss of productivity."

By the end of 1982, Harris was ready to leave her corporate job at the department store and move into an entrepreneur situation. "I had strong training in business management," she recalls, so I was confident that I could do it." She also knew that there was a developing market for computer training. A November 1982 article in *Business Week* stated, "Experts say 100 million Americans will need some form of computer instruction in the next decade."

With all this in mind, Harris presented her idea to the top management of ComputerLand. "A little over two years ago," she says, "I told Ray Schlitzer, Charles Orr, and Robert McMillian about my idea of establishing a microcomputer training division within their organization. I told them that end-user training could be profitable. They were ready to try it and accepted my proposal."

It would be a considerable understatement to say that Training Works has been profitable. The microcomputer training center enjoyed such success that Harris and ComputerLand recently agreed to let Training Works stand on its own. "We're our own independent company now, in the middle of transition," says Harris.

To reinforce the fact that Training Works is a distinct entity, Harris stresses that it is not and never has been a retail operation. "Our services only lend themselves to microcomputer training situations and solutions, not the selling of hardware and software," she says. "We're on a very aggressive growth path. I'm up to fifteen employees; we've had to hire a couple of salespeople recently, and we grew 240 per cent in volume last year. On a month-to-month basis, Training Works sales have increased consistently, often in increments exceeding 40 per cent."

According to Harris, one of the features that Training Works clients find most attractive is the company's flexibility in setting up training programs. "It's important for us to be flexible, to go where the market takes us," she observes. "Although most companies choose the one-day format, we can design half-day classes, or we can take the computers and instructors and set up training workshops at the corporate site. Most of our clients are major corporations, and the development of the courseware for one single software program can cost $15,000. That's because it reflects my belief in having good, solid instructional materials. With industry changing so rapidly, it makes little sense to most companies to set up their own 'in-house' training division when the training, the facilities, the instructors and the courseware already exist and are available — right here."

Training Works also offers public classes, workshops, seminars and labs. Each student receives hands-on training, working with an IBM PC or Compaq computer. The average class size is between ten and sixteen students, and sessions are held at various times Monday through Friday at the California Street headquarters. Students receive individualized attention thanks to the small class size. Beginning through advanced levels of instruction are available according to the needs of the student, on a wide variety of leading software packages, including *WordStar*, *MultiMate*, *Symphony*, *dBase II* and *III*, and the most widely requested, *Lotus 1-2-3*.

"What is also significant about Training Works," adds Harris, "is the after-class support we give our students. If people experience any problem adjusting to the use of computers outside the classroom, we have a hotline they can call for support." Training Works also offers an after-class lab setting for clients to polish their skills. "We train a client on, say, *dBase*," she says, "and then bring them back to the lab and train that person on a different level. By bringing a client back, we can determine if they have absorbed all of the previous material."

Also, Training Works adapts quickly to changes in the marketplace. Says Harris, "We're always watching the market and adding new courses each month in order to change with it. Our new Work Project Workshops — *dBase II* and *III*, *Lotus 1-2-3*, and *WordStar* — are a perfect example of adapting. So is our seminar this month on the Macintosh."

"When people begin to confront the computer, a strong dose of old-fashioned patience and understanding goes a long way to help demystify computer jargon and translate it into practical information."

As to the future, Harris is confident. "I don't think computer training has hit its peak yet. I can't tell you what form technology will take on five years from now, but the need for microcomputer training will definitely be there. It will always be there." (The Training Works, 433 California St., Suite 310, San Francisco, CA. (415) 982-0211.) □

Photos By K. Gypsy Zaboroskie

The Analog Backlash — *And Other Pitfalls Of The Computer Age*

While the annual West Coast Computer Faire (held this year from March 30 to April 2) is always a good place to check out the latest technology in the market and pick up items at bargain prices, it also provides a forum for the exchange of interesting ideas.

What follows is a series of excerpts from a conference held April 2, entitled "Computers: Panacea Or Poison?" Speakers raised the sometimes unexpected problems caused by the use of computers in today's world, and sometimes suggested some equally unexpected benefits.

We found all this quite interesting and decided to pass it along, and we invite your comments. Each panelist made a brief opening statement, selected passages of which are reproduced here, followed by excerpts from the session of questions from the floor. (Questions from the audience are in italics.)

Thanks to David Small of The Computer Faire for permission to reprint some of the proceedings.

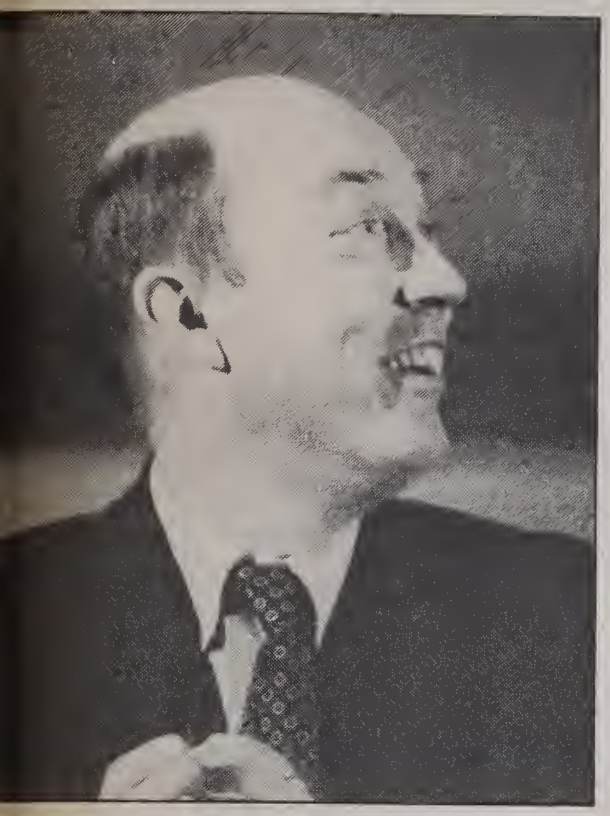
Mary Eisenhart

LENNY SIEGEL (Director of Pacific Studies Center, Mountain View; principal author of *The High Cost Of High Tech: The Dark Side Of The Chip*, due in October from Harper & Row; co-author of *Dvorak's Easy Guide To The Macintosh*, from Dell):

One of the clearest consequences of the rise of personal computers is that it's only available to a few. Despite predictions that everybody's going to have a computer in a few years, it looks like not only is just a small percentage of our population going to have computers, but a large number of us might end up not having telephones. Right now the telephone companies are spending billions of dollars to upgrade the equipment to turn our plain old telephone service into the Integrated Services Digital network so the computers can use the lines without even using a modem. That's great for those of us with computers, but it means that the average phone customers will have their rates go up to provide them with no better service. Predictions are that instead of eight to ten per cent of the American population not having phones in their houses it'll go up to 20 or 30 per cent. Similarly, as those of us who have access to electronic mail use it more and more, those people who rely exclusively on the U.S. Postal Service will find that their mail service is getting more expensive and declining.

. . .The fact is that as we as a society grow to rely on computers more and more in our lives, people in national policy positions [re "Star Wars" and related programs] are deciding that we are ready to let computers not only run much of our lives, but take responsibility for our future. Those of us who work day in and day out with computers know that our computers always screw up.

. . .I think computers have enormous potential. I use them daily. The question is how are they, as a whole, being used to affect our lives?

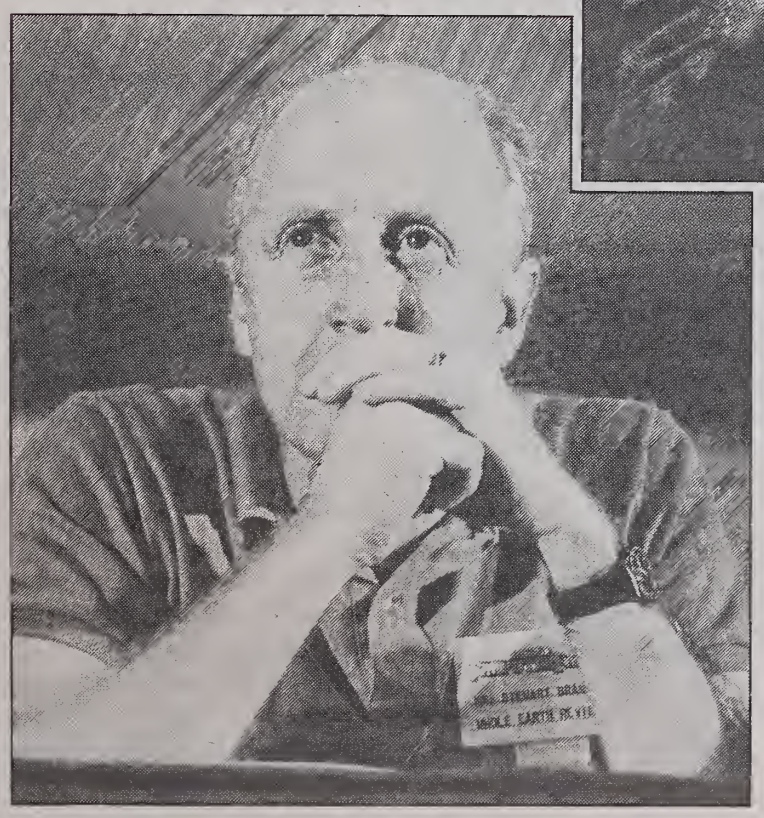


GEORGE MORROW (Chairman and founder of Morrow Designs; creator of various computer-related products; Ph.D. in mathematics; author of *Quotations From Chairman Morrow*):

The day is not far off when all transfers of money will be able to be effected by the use of this [VISA] card or something like it — along with a magnetic stripe and perhaps some kind of voice identification. That's great, because it means that now I don't have to carry money with me, I don't have to worry about somebody mugging me, if something happens to the card I can call up and have it cancelled. And that's the good side of it, but there's a very, very dark side of it. If you can control the transfer of money with computers you can also monitor it.

...Think how effective it would be when, with the use of this card, you can either deny or let somebody get on a bus, buy gasoline, watch his television set, do anything that requires money. Think of the complete control you can have when you can decide when and where a person spends his money. Maybe you're taxed by how good a citizen you are; all done in the best of interests, of course, the interests of democracy, for the good of all the people. But who decides that? The people who program it, or control the programming of it. It's very dangerous.

Now it *will* put completely out of work the normal criminal as we know it, because with one of these cards, if you went out and stole a television set, in order to turn it into some kind of trading goods, you'd have to use this [card]. Well then, just think about who the new criminals will be: only those who know how to fiddle with computers, because they will be the most dangerous [people] in our society.



STEWART BRAND (Founder and editor of *Whole Earth Catalogs*, including *Whole Earth Software Catalog*; publisher of *Whole Earth Review*, the premiere issue of which, last January, featured a cover story entitled "Computers As Poison"; sponsor of 1984 Hacker's Conference):

I notice that Lenny has a digital watch. I have a nice old-fashioned analog watch. Sometimes I think that the whole battle about computers is between digital and analog. We're doing a cover story in the next *Whole Earth Review* on digital retouching of photographs. There's going to be a photograph of flying saucers in San Francisco on the cover, which will be completely believable. You can digitally retouch photographs to do absolutely anything. Which means the end of the last great analog evidence. Photography is no longer a measure of truth — it's just another way to convince.

...Personal computers have at their very technological hearts — put there by Wozniak and other people who put it there on purpose — a basic revolutionary intent, which is that power is most intelligent when it goes up rather than down. So this is a fundamentally democratic technology — there's lots of ways it can be misused, but the personal computer was devised as an anti-computer. It was devised by people who'd had it up to here — not so much with IBM as the reality but IBM as the idea, a monolithic controller of information. If you could get a *personal* computer, was the idea back in homebrew days, you could at least meet that and ideally undermine it.

So while I'm more apt to agree that some of the mega-uses of computers, because they *are* mega, have problems built in, a lot of the way you get ahead of that is by being as sophisticated and as inventive and have as much fun as you can possibly have with personal computers, and you'll stay ahead of 'em.

JOHN DVORAK (Author and columnist in various computer publications, including *Infoworld*, *Computer Currents* and the *San Francisco Examiner*; apostrophized by moderator John Larsen after this speech as "The Henny Youngman of the computer world"):

George drones on and on about this money thing. I mean sure, I suppose people would prefer the non-technology-oriented society where you have the SAVAK or the Korean KGB, who don't use computers and therefore *obviously* there's an element of freedom.

...I just don't see the matchup. I tend to believe that computers, if anything, democratize information to such an extent that if you can slip a compact disk into your pocket, it holds 500 megabytes of information and it can be passed around — you're not talking about a couple of Russians out in Siberia slipping around a big typewritten manuscript from Ivan to Ivan so they can read something nasty about the government. I mean, we're talking about *lots* of books.

I think this kind of thing is going to improve society as a whole, and I think computers are great. Besides that, they're a lot of fun and there's a lot of people that got to make a lot of money that probably wouldn't make money otherwise.

STOP PRINTER NOISE

With MKM SOUND ENCLOSURES

UP TO 90% NOISE REDUCTION

MKM ACOUSTICAL ENCLOSURES CONTROL OFFICE NOISE and INCREASES WORKING EFFICIENCY

FOR FAST ANSWERS PHONE OUR

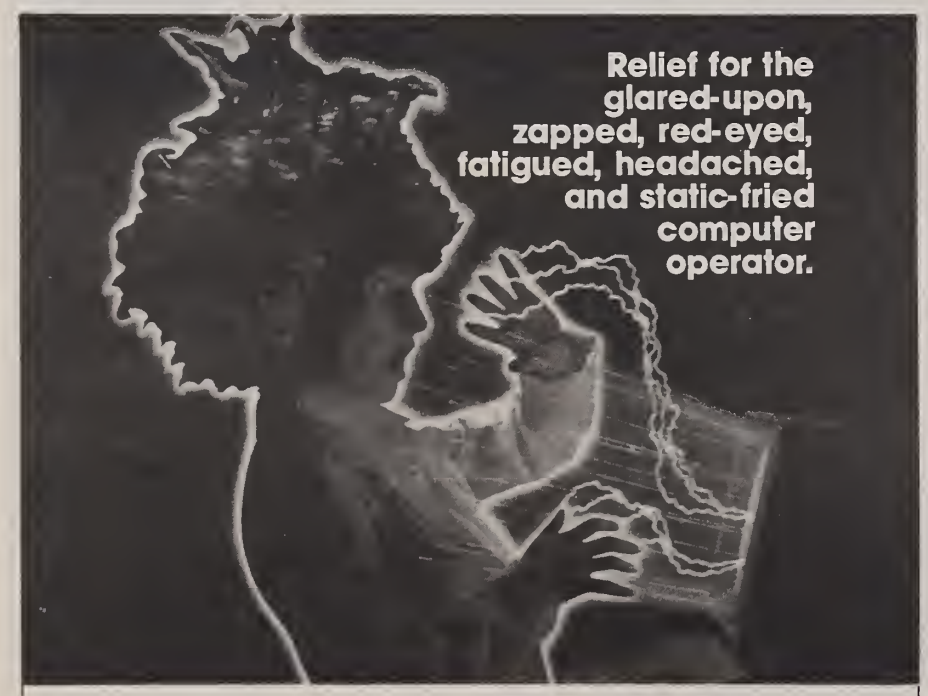
HOT-LINE

FREE BROCHURE
DEALER INQUIRIES WELCOME

MKM MFG.INC.

P.O. BOX 4297 SAN RAFAEL, CA 94913-4297

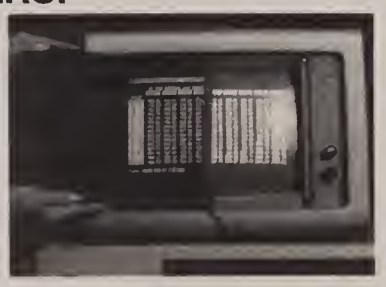
PHONE (415) 479-0633



TAME YOUR TERMINALS, SILENCE YOUR PRINTERS!

POWER SCREEN FILTERS
- Reduce glare
- Trap Electrostatic fields
- Supress VLF radiation
- Protect hardware/software
- Priced under $50.00
- Over 100 models

MKM SOUND ENCLOSURES
- Up to 90% noise reduction
- Over 60 models



Call for a **FREE** filter trial, in your office, on your terminals!

ERGONOMIC COMPUTER PRODUCTS

"PEOPLE PRODUCTS FOR THE COMPUTER"

415-673-5757

The Analog Backlash

QUESTIONS AND DISCUSSION

Most of your problems seem to be with the social use of computers rather than with the technology as such. Is there such a distinction, and in that context, what good does it do us to know if it's good or bad if we can't do anything about it?

Morrow: To think about the good or the bad means that you have the option to do something about it before it happens. If somebody can describe a disaster before it happens, maybe somebody can figure out a way it might not happen, or be as bad.

This business of technology: guns don't kill people, it's someone putting it in their hand and pulling the trigger, but we still think we ought to have gun control.

Brand: If you have a pessimistic view of everybody, these technologies tend to take on that coloration, and because they're future-oriented, you figure there's a black future ahead because people are basically bad.

If you're the kind of person who writes down "optimistic realist" on your questionnaire — my entire generation from the '60s did that, and what we get loaded on now is the next psychedelic, which is computers, and we can't wait for space. It's the same goofy optimism we had then.

Siegel: The personal computer movement grew from the movement of hobbyists who did not like the concept of the big IBM, the military controlling computers. When the microprocessor was invented, people said, "We want our own machines," and they made them.

It's not clear exactly what the choice is going to be next year about how we're going to develop the technology, but it's important for those of us who are learning about the technology and have access to it to figure out how we will use it, not only for our own good, but how we can use it on behalf of social causes or ideas that we favor.

It's a hard fight, but that's a fight that's going to go on, to determine whether the technology serves what I consider the needs of the population as a whole, or of only a handful of people or institutions.

Do you want to talk about the phone company in that context?

Morrow: There is certainly going to be some competition for sending either zeros and ones or normal voices over the phone lines. They certainly don't have the capability of handling both, so there will be more and more competition for the use of those wires, and the business of having to pay more for it is probably a fact.

Brand: Some of us are trying to do open-ended, low-cost telecommunications — we have a thing called The WELL, just starting up in Sausalito for the entire Bay Area. It's going to be extremely low-cost, partly because AT&T in pieces has got earnest about actually doing things that people want. So they're doing packet switching for the Bay Area — it's one of the first places in the country to get that. People can get on our teleconference system for a dollar an hour access fee, instead of calling from San Jose to Sausalito for $15 an hour. This, they claim, is probably a couple of years ahead of what AT&T as a monolith would have done — they're competing for business, they're moving ahead closer to where the technology is rather than what the market will bear.

What effect will selling computers as appliances, tools, etc., and not as computers, have on their penetration of our society?

Morrow: We're doing that now. Radaranges have computers in them, and no one knows about it, or at least it isn't obvious, and that's exactly the way a computer should be. It should always be *behind* the door, and certainly away from where you have to deal with it as a direct device.

(Lee Felsenstein, designer of Osborne I, co-founder of Community Memory in Berkeley): I for one do not want to see computers become appliances which are invisible and un-accessible except through the approved ways of using them. Put 'em behind the door, but make sure there's a service panel in the back.

The impetus for the personal computer came from the urgent desire to make sure we could get in as deep as we wanted to go and mess around with it. Most of the people who did that didn't really have anything they wanted to do to them or with them, but they sure wanted to make sure that anybody who did want to get in could.

3M Diskettes $1.85 each SS/DD

5-1/4" SS/DD Soft	10 Disks Box	$18.50
5-1/4" DS/DD Soft	10 Disks Box	23.50
5-1/4" DS/DD 10 Hard	10 Disks Box	23.50
5-1/4" DS/DD 96 TPI Soft	10 Disks Box	31.95
8" SS/SD Soft w/WP Notch	10 Disks Box	20.50
8" SS/SD Soft No Notch	10 Disks Box	20.50
8" SS/DD Soft w/WP Notch	10 Disks Box	24.95
8" DS/DD Soft w/WP Notch	10 Disks Box	30.95
8" DS/DD Soft No Notch	10 Disks Box	30.95
3½" SS 135 TPI	10 Disks Box	36.50

3M Head Cleaning Diskettes

8" 7400	$18.25 each
5-1/4" 7440	18.25 each

3M Data Cartridges and Computer Tape

DC-300A	$16.95 each
DC-300XL	19.95 each
DC 300 XLP	22.95
DC 600A	22.95
DC 1000	14.35
703 - 1/2" - 3600 R 165 C55	25.88
700 - 1/2" - 600 R 79 C55	9.35
777 - 1/2" - 2400 R 165 C55	15.65

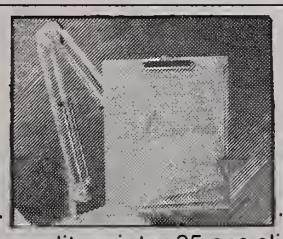
Paper & Labels

18 lb. bond continuous form 2900 sheets	$26.95
18 lb. bond continuous form clean perf. 2900 sheets	30.95
Pressure sensitive labels 1 across 3-1/2"x15/16", 5000 per box	12.50
Pressure sensitive labels 3 across 3-1/2"x15/16", 15,000 per box	37.50

Miscellaneous Supplies

Disk Bank Flip-Top File (50 Capacity)	Per each unit	$9.95 each
	25 units & up	8.95 each
Mini Disk Plastic Storage Box (10 Capacity)	Per each unit	1.49 each
	25 units & up	1.39 each
Tyvec Envelopes		.07 each

Close Outs!



Paper Boss	$19.95
C. ITOH Tec Starwriter letter quality printer 25 cps slightly used	$399

VCR and Audio Cassettes

VHS T-120 High Grade	$4.65
Beta L-500 High Grade	4.39
C-90 LN-2 pack	.79
C-60 LN-3 pack	.79

Generic Diskettes 99¢ each SS/DD

100% Certified Reinforced Hubs — Meets or Exceeds all Ansi Standards
5 Year Warranty

5-1/4" SS/DD (99¢ each)	20 Disks Box	$19.80
5-1/4" DS/DD (1.15 each)	20 Disks Box	23.00

Packaged 20 per pack with write protect tabs (envelopes extra)

Ribbons

Apple Dot Matrix (same as NEC 8023)	$4.29
Apple Letter Quality Printer (Same As Qume IV MS Film)	3.30
Apple Image Writer (same as NEC 8023)	4.29
Brother EM60-200 Corr. Film	3.25
C. ITOH Prowriter 1550-8510 (same as NEC 8023)	4.29
C. ITOH Prowriter 1550-8510 MS Film	4.29
Dec LA-30	2.40
Diablo Hytype II MS Film	2.99
Diablo Hytype II Cloth	3.88
Diablo Hytype I MS Film	3.79
Epson MX 70/80, FX80, F&R Series Ribbon Cartridge	3.85
Epson MX 100 Ribbon Cartridge	4.99
Epson LQ-1500 Ribbon Cartridge	7.95
NEC 2000/3500 MS Film	6.75
NEC 5500/7700 Spinwriter MS Film 1/4"	3.30
NEC 5500/7700 Spinwriter Cloth 1/2"	3.69
NEC 8023	4.29
NEC 8023 MS Film	4.29
Okidata 80/82/83/92/93	1.85
Okidata 84/94	2.99
Qume/IBM 6240 MS Film 1/4"	1.95
Qume IV MS Film	3.30
Radio Shack VI/VIIINylon	2.99
Tally 1000	3.99
Tally Spirit 80 (SP 80) MS Film	3.30
Tally MT 160 Nylon	4.15
Tally MT 180 Nylon	7.49
Texas Instruments 810	2.40
Xerox 610 MS Film	3.90

Argonaut Diskettes $1.15 each SS/DD

100% Certified Reinforced Hubs — Meets or Exceeds all Ansi Standards
Lifetime Warranty

5-1/4" SS/DD (1.15 each)	20 Disks Box	$23.00
5-1/4" DS/DD (1.30 each)	20 Disks Box	25.98

Packaged 20 per pack with write protect tabs (envelopes extra)

DUST COVERS-VINYL

IBM PC 2 piece cover set	7.95
IBM Monitor	6.95
EPSON Printers (Specify Model)	6.95
Apple II with monitor	6.95
C. ITOH Prowriter/Apple Imagewriter or Dot Matrix Printer/NEC-8023	6.95

Note: Add $3 for shipping & handling on Visa, MasterCard or prepaid orders. Add $4.50 for C.O.D. orders Paper shipments to Zip Codes with first digit of 0-7 add $5 for each box of paper. California residents add 6.5% sales tax or send resale card **Call or Write for complete price list or special quotes**

Order Form **Order Form** **Order Form** **Order Form** **Order Form**

Ship to: _____ Phone ( ) _____

Address: _____ Visa/Master Card # _____

City: _____ State: _____ Zip: _____ Exp. _____

Send order form to:

ARGONAUT DISTRIBUTING
508 3rd Street, Dept MT
Antioch, CA 94509

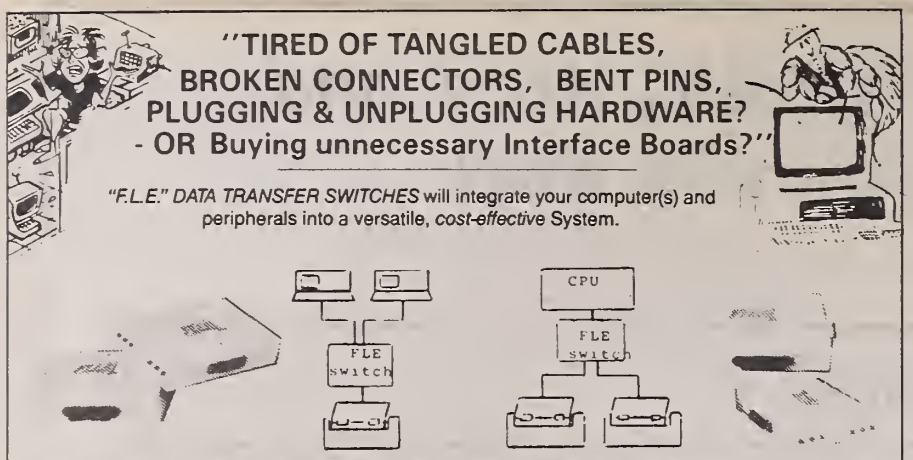
Amount Ordered	Item Description	Price	Total
_____	_____	$_____	$_____
_____	_____	$_____	$_____
_____	_____	$_____	$_____

Subtotal		Sales Tax		Freight & C.O.D. charges		Total Amount of Order
$_____	+	$_____	+	$_____	=	$_____

Satisfaction Guaranteed Since 1967

Argonaut Distributing

508 3rd Street • Antioch CA 94509 • (415) 778-2595



Morrow: I think it's a mistake to think that all of us who got involved in the early days that didn't want to do anything with the computer besides be near to it — that was the image, that everybody should want to do that. You know, there *are* people who want to use a computer as a word processor and don't want to spend three years reading the manual.

Brand: Lee, was it part of the design notion at the beginning that what you guys were intending to build was general purpose computers? Or is that just simply what happened anyway?

(Felsenstein) That was indeed what we were after, because no one could agree on what they wanted to use computers for.

Brand: That's highly admirable. I continue to be impressed.

Morrow: Why should we continue to spend our money on devices that don't *do* anything?

Brand: Because they might do something we don't expect, that's why.

Why did computers not receive the public wrath that, say, nuclear power and genetic engineering did?

Brand: I have the answer to that. All the good liberals have Kaypros, and they're writing with them.

I think that the lack of criticism is actually something we *should* worry about, and the only reason I can see for it possibly is that's it's a moving target, it's moving faster than critics can move.

I should add a footnote. The liberals use Kaypro. The radicals use Morrow.

Morrow: An unkind cut.

Brand: No kidding — I went to the user's group in the East Bay and they're astonishing — looked like a meeting of Veterans of Foreign Wars in terms of age, but the politics was *great*!

Dvorak: Don't leave out the Macintosh-using Yuppies.

Brand: They have no politics whatever. They wouldn't know a politic if it bit 'em.

You were talking about digital vs. analog. I've noticed that no philosophers any longer talk about the human being as "the rational animal" because we've externalized rationality to a great degree in machinery. Somewhere out there if digitizing continues, there's an analog reaction building up. Do you see its shape anywhere?

[From audience] Music!

Morrow: Music has stopped being analog. I went into a nightclub the other day and there was nothing but electronics where the stage and the musicians used to be.

Dvorak: Yeah, but the *interface* is still analog.

Morrow: Wait'll the computers start coming to the nightclubs.

I understand now that they're fighting in the recording studios about whether stringed instruments should be allowed to be digitized or not. Recording now has become almost entirely digital.

I work as an audio technician, and I will not have digital sound in my house, and I won't work on it.

Morrow: This man should get a round of applause.

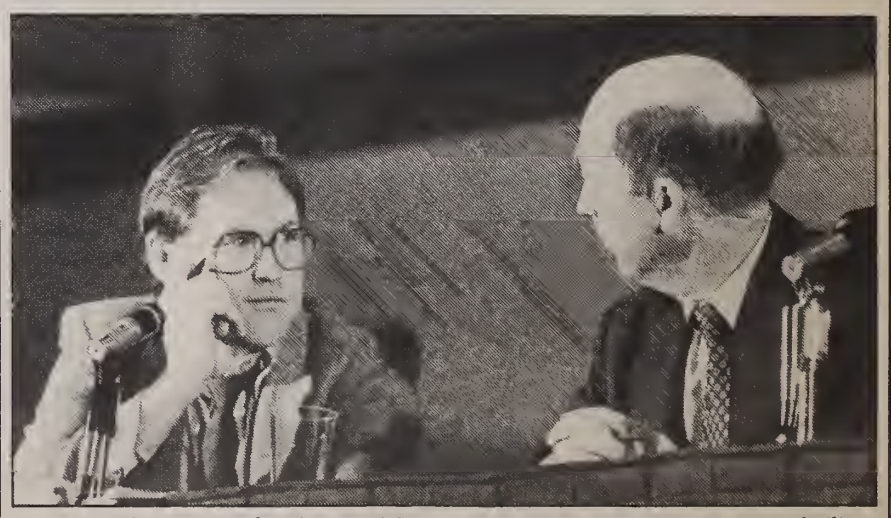
Brand: Wait. Wait. Why?

In my opinion it causes extreme stress.

Brand: Digital sound causes stress? It's not natural?

No, it's not a metaphysical argument. But if you spend a lot of time editing a digital soundtrack, you get stress diseases.

Brand: Are you suggesting that if we get CD's something's going to go wrong with our nervous system?



George Morrow takes issue with an opinion voiced by John Dvorak (l).

Morrow: CD disks are not the same as synthesized music. CD disks are a reasonable approximation of what good analog sound sounds like. But what we are creating in terms of sound with these digitized systems is not natural sound. It's a long way from it.

Brand: George, if you can't tell the difference, there *isn't* a difference.

Morrow: Well, *I* can tell the difference, and I'm 51 and my hearing's

All IBM, Apple*, Macintosh*, Atari* and Commodore* Software in stock 20% to 75% off the suggested retail.*[1]

SPECIALS

5¼" Diskettes

		Retail Price	Our Price
Maxell Verbatim Xidex	SS DD. box of 10	$40.00	**$19.95**
Maxell Verbatim Xidex	DS DD. box of 10	$50.00	**$23.95**

3½" Diskettes

		Retail Price	Our Price
Sony Maxell Verbatim Memorex		$60.00	**$35.00**

Continental
(Apple/Macintosh)

Continental Software

	Retail Price	Our Price
Home Accountant *(Apple)*	$75.00	**$44.95**
Home Accountant *(Macintosh)*	$150.00	**$99.95**

MicroSci
(Apple)

μ-SCI MICROSCI

	Retail Price	Our Price
A2 Drive *(Apple II+/IIe)*	$300.00	**$187.95**
A5 Drive *(Apple IIc)*	$350.00	**$219.95**

Fully Apple Compatible Drives

Data Transform
(Apple/IBM)

DATA TRANSFORMS GRAPHIC SOFTWARE

	Retail Price	Our Price
Fontrix *(Apple)*	$95.00	**$76.00**
Fontrix *(IBM)*	$155.00	**$124.00**
Font Paks Vol. 1 through 11 *(Apple/IBM)*	$24.95	**$19.95**

We are the Bay Area's most complete software outlet with hundreds of software disks and cartridges in stock and thousands more available. Come and see our line of *software* and *peripherals* for *Macintosh, *Apple**, *IBM**, *Atari** and *Commodore**. If we don't have it, we can get it fast.**

Advanced Logic Systems
(Formerly Silicon Valley Systems)
(Apple)

als Advanced Logic Systems

	Retail Price	Our Price
List Handler *(Apple)*	$79.95	**$24.95**
Z-Engine *(Apple)*	$199.95	**$120.95**

Thunderware
(Macintosh)

ThunderScan

	Retail Price	Our Price
Thunderscan	$219.95	**$199.95**

Best Digitizer for Macintosh

Unison World, Inc.
(IBM)

UNISON WORLD INCORPORATED

	Retail Price	Our Price
Print Master	$59.95	**$47.95**

Enjoy creativity - at home or office

New Games	Retail Price	Our Price
1. Gato *(Apple)*	39.95	**31.95**
2. Sword of Kadash *(Apple)*	34.95	**27.95**
3. Space Shuttle *(Apple)*	39.95	**31.95**
4. Mr. Do *(Apple)*	39.95	**31.95**
5. Kennedy Approach *(C-64)*	34.95	**27.95**
6. Racing Destruction Set *(C-64)*	35.00	**28.00**
7. Mail Order Monster *(C-64)*	35.00	**28.00**
8. Speculator *(IBM)*	69.95	**56.95**
9. Squire *(IBM)*	69.95	**55.95**
10. Entrepreneur *(Macintosh)*	49.95	**39.95**
11. Airborne *(Macintosh)*	34.95	**25.00**
12. Ultima II *(Macintosh)*	59.95	**47.95**

SOFTWARESOLUTIONS

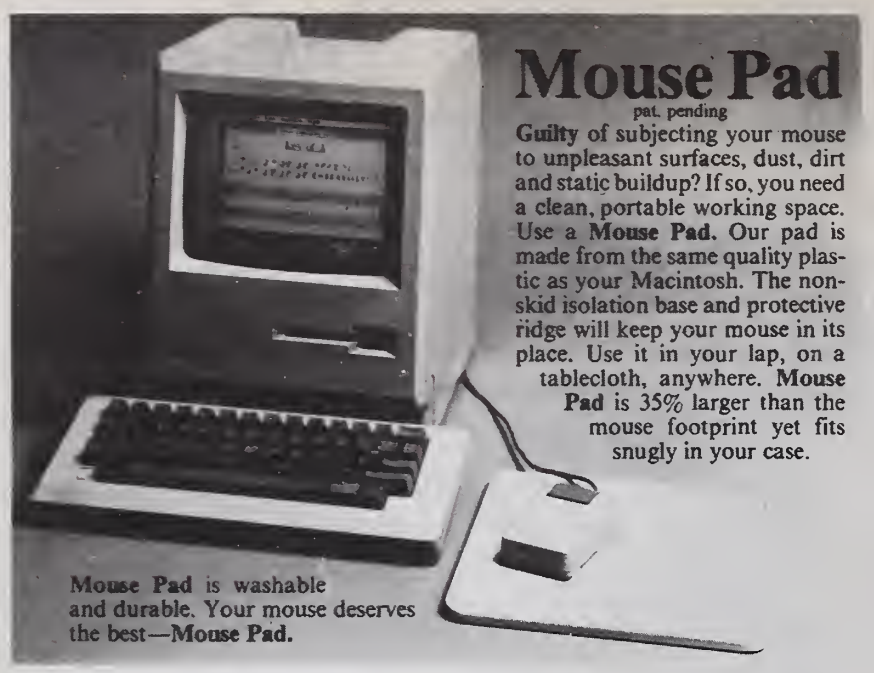
[1] For items in stock only.

11185 San Pablo Ave., El Cerrito 94530 **(415) 237-5257**

Hours: Monday through Saturday 10:00 a.m. to 6:00 p.m.

For Orders Call 800-223-8327

*Trademarks of respective manufacturers.



Mouse Pad

pat. pending

Guilty of subjecting your mouse to unpleasant surfaces, dust, dirt and static buildup? If so, you need a clean, portable working space. Use a **Mouse Pad.** Our pad is made from the same quality plastic as your Macintosh. The non-skid isolation base and protective ridge will keep your mouse in its place. Use it in your lap, on a tablecloth, anywhere. **Mouse Pad** is 35% larger than the mouse footprint yet fits snugly in your case.

Mouse Pad is washable and durable. Your mouse deserves the best—**Mouse Pad.**

Music Character Set

A complete sheet music development package. Contains blank staff sheets for all keys, complete character sets and chord library. For use with Mac Paint.

Mouse Pad . . . . . $12.95 **Music Character Set $24.95**

Use our 24-hour order line with your MC or Visa. Checks welcome. We pay shipping within continental USA; outside orders add $3.00 P & H. Satisfaction guaranteed. CA residents add 6.5% tax. Macintosh & Mac Paint are reg. trademarks of Apple Computers, Inc.

South Bay Software

Box 969 Millbrae, CA 94030 (415) 579-5455

JOIN US NOW

- High Quality
- Complete Line
- Available Now
- 100% Compatibility

SIGMA DESIGNS

MAXIMIZER
- 64K expandable to 384K
- one parallel interface
- one RS-232C serial interface
- clock/calendar with battery backup

EXTERNAL SUBSYSTEM
- 10, 20 or 32 megabyte half height Winchester disk drive
- 45 or 60 megabyte half height streaming tape backup
- Mounted in Chassis with built-in power supply

COLOR 400
- 640 x 400 non-interlaced display
- 16 colors out of palette of 16
- Compatible to IBM Color Card
- Runs Lotus 123 Visicalc etc.

SIMA DESIGN offers complete line of IBM PC add-ons:
- HARD DISK, 10MB to 120MB
- Tape Backup 45.60/MB
- Expansion Chassis/Subsystem
- Expansion Cards

COMPUTECH

800 Charcot Ave #106 San Jose Ca 95131
408-435-1050

We also distribute: systems, floppy disk drives, 64K/256K DRAM printers, and accessories

DEALER INQUIRY WELCOME. DEALERS ONLY

gone to hell. Now maybe yours has gone farther than mine. . . .

[Re question of rationality externalized in machinery] This gentleman touched one of my raw nerves a few minutes ago, talking about artificial intelligence. We like to think that we understand how to reason, and there are a lot of people who think that they can try to build some approximation on this into a computer. I don't think we have the slightest idea about our reasoning processes, and I think it's really dangerous to think that we can then teach some machine to mimic only a tiny part of what we've been able to recognize.

Too many times, and too often, little voices tell you something, and you don't understand why they do, but it's an honest-to-God part of our reasoning, that we haven't the slightest idea how it works. And the way I've managed to explain it has to do with lines and planes. I think of our present methods of reasoning as lines and planes. I think of our present methods of reasoning as linear: you progress from point to point. But if there's really a plane there, and you're only aware of the line, a person can go out on the plane, and get from one point to another, leaving that line, and you can't understand how he got there, if all you can do is see along the line.

And I think that's a component of our intelligence. There are many components that we haven't the slightest idea about, yet we're trying to model machines on this little tiny part of it that we *do* understand. And I think that it's really dangerous, and worse, futile, and I hope the Japanese keep up with it.

Brand: I have a question. Earlier in the discussion the values associated with freedom and personal liberty as far as computers were concerned seemed to be associated with small personal systems, whereas the values associated with monolithic dominance were associated with large centralized systems. This seems to be the year in which Local Area Networking can combine many small systems into larger ones. As personal computers are merged into local networks or larger units, does this mean that these undesirable mega-type features may surface in the networks? Are we going to have the best of both worlds or the worst?

Morrow: The criminal justice system used to look on somebody that accessed your database either accidentally or because he was curious about it as someone to tap their hand lightly and tell 'em please don't do it again. Now they're coming down much harder on them. So it's possible as these machines get integrated into perhaps some wide network that encompasses the large and small machines that if you do *anything* other than what you're supposed to you could be clapped in jail. That's the dark side of it. The light side is, maybe there'll be so much of it going on it's impossible to enforce it, and maybe it will democratize it or open it up. I don't know.

Dvorak: I dunno. There's these five kids in the second row, and hey, there's no problem. These guys'll crash anything on the West Cost, you can tell by looking at 'em.

Morrow: But if they shoot them for doing it. . . .

Dvorak: But they're juveniles. . . .

Moore: They put Cap'n Crunch in jail.

Dvorak: Yeah, but he wasn't a juvenile.

Siegel: I want to respond a *little* bit more seriously. In *1984* people could not turn off their telescreens. The important thing is to, not only legally but on a practical basis, maintain the ability to disconnect our machine. I think we're much safer if we unplug the modem or whatever other device we have to connect the machine.

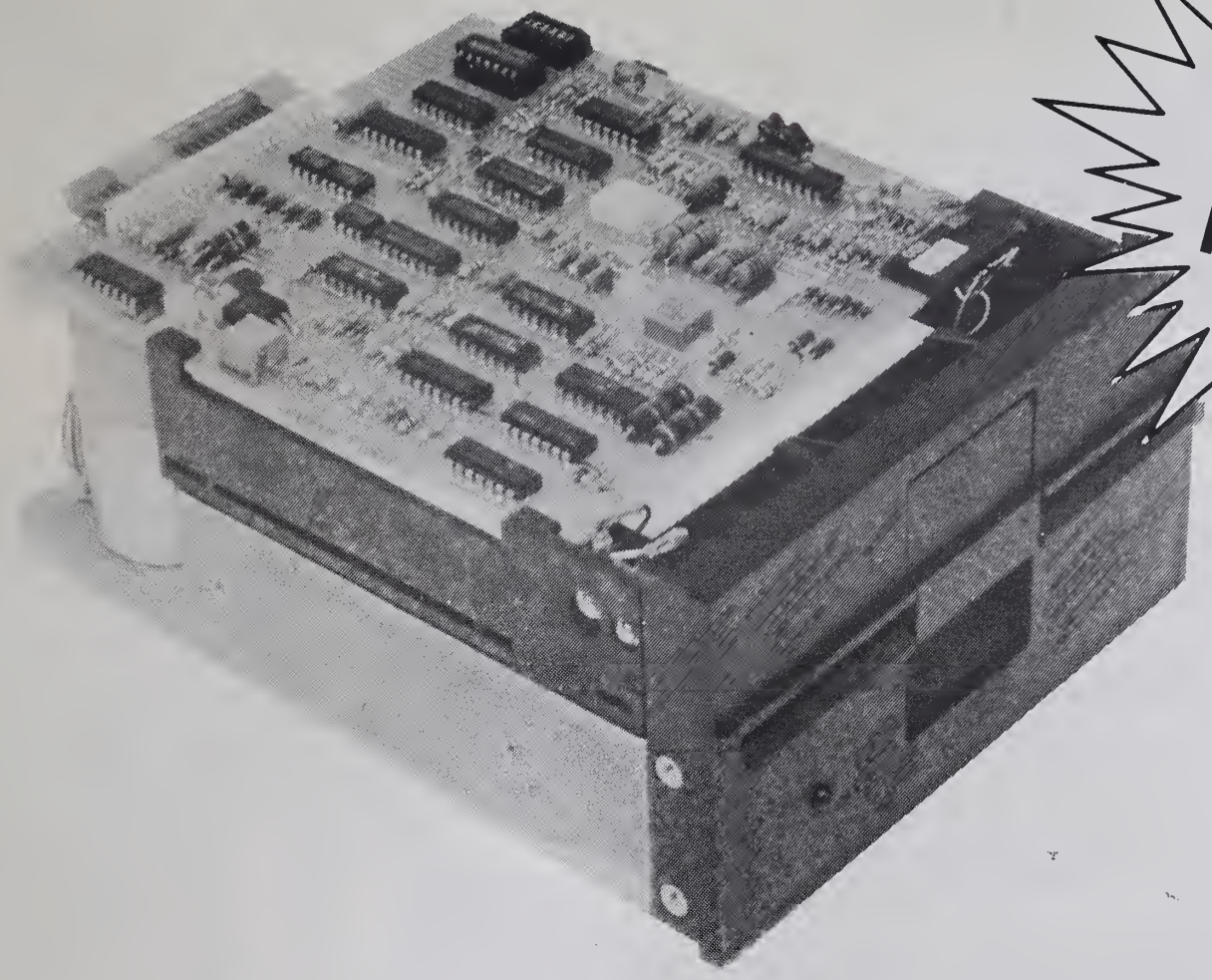
Dvorak: You know, Lenny, I think it's funny that you and George both go on and on about how the telephone lines are so overloaded, with just a few people using modems. Yet there's this huge fear of everybody being networked in somehow. You can't even get a line into CompuServe!

Morrow: That's right. If this computer networking system gets going, it'll all come to a halt, at least with today's wires.

What do you think about IBM's price reductions on the XT and PC's?

Siegel: I think the price reductions are going to be continuing, and that computing power is getting cheaper and cheaper. It *appears* to be more accessible to the average person in this country. I would contend that the price of software — for those who pay for it — the service, and learning how to run the machine, still will make the price of computing prohibitive to the average person in this country.

Morrow: My feeling is the adventuresome people, that are willing to put up with the hassles of being close to their computer and using it — we've used up most of those individuals, and the rest of society doesn't really get off by getting close to their computer. They want to *use* it for something. And I think we've all found that you can't stuff too many more down the throats of an unwilling populace. □



NEW LOW PRICES

Superior Floppy Disk Drive Repair is Easy to Find When You Look to TRANS DATACORP

TRANS DATACORP
QUALITY · DELIVERY · PRICE

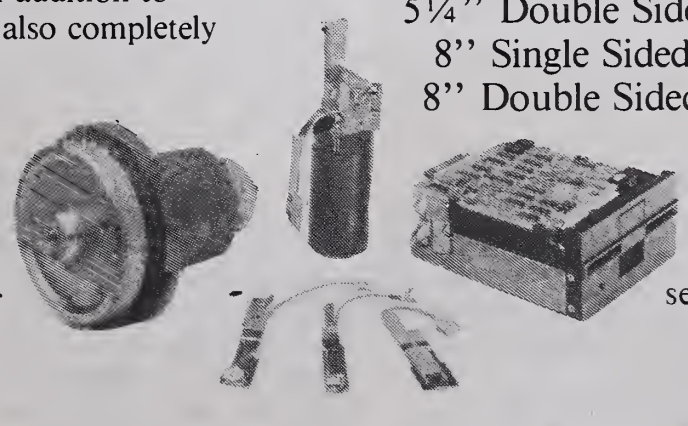
Fast service, top-notch workmanship, and low rates are TRANS DATACORP standards

This new low price covers all needed repairs to the Drive including parts except in the case of a board replacement, which is not covered. In addition to repairing the Drive, Trans DataCorp also completely tests and adjusts the Drive to OEM specifications and each Drive is accompanied by a Computer Diagnostic Print-out.

You also get a 6 month warranty for all parts and labor furnished.

Call us now for more information.

PRODUCT	QUANTITY	PRICE	
5¼'' Single Sided	1-10	~~$ 75.00~~	$ 65.00
5¼'' Double Sided	1-10	~~75.00~~	65.00
8'' Single Sided	1-10	~~100.00~~	75.00
8'' Double Sided	1-10	150.00	



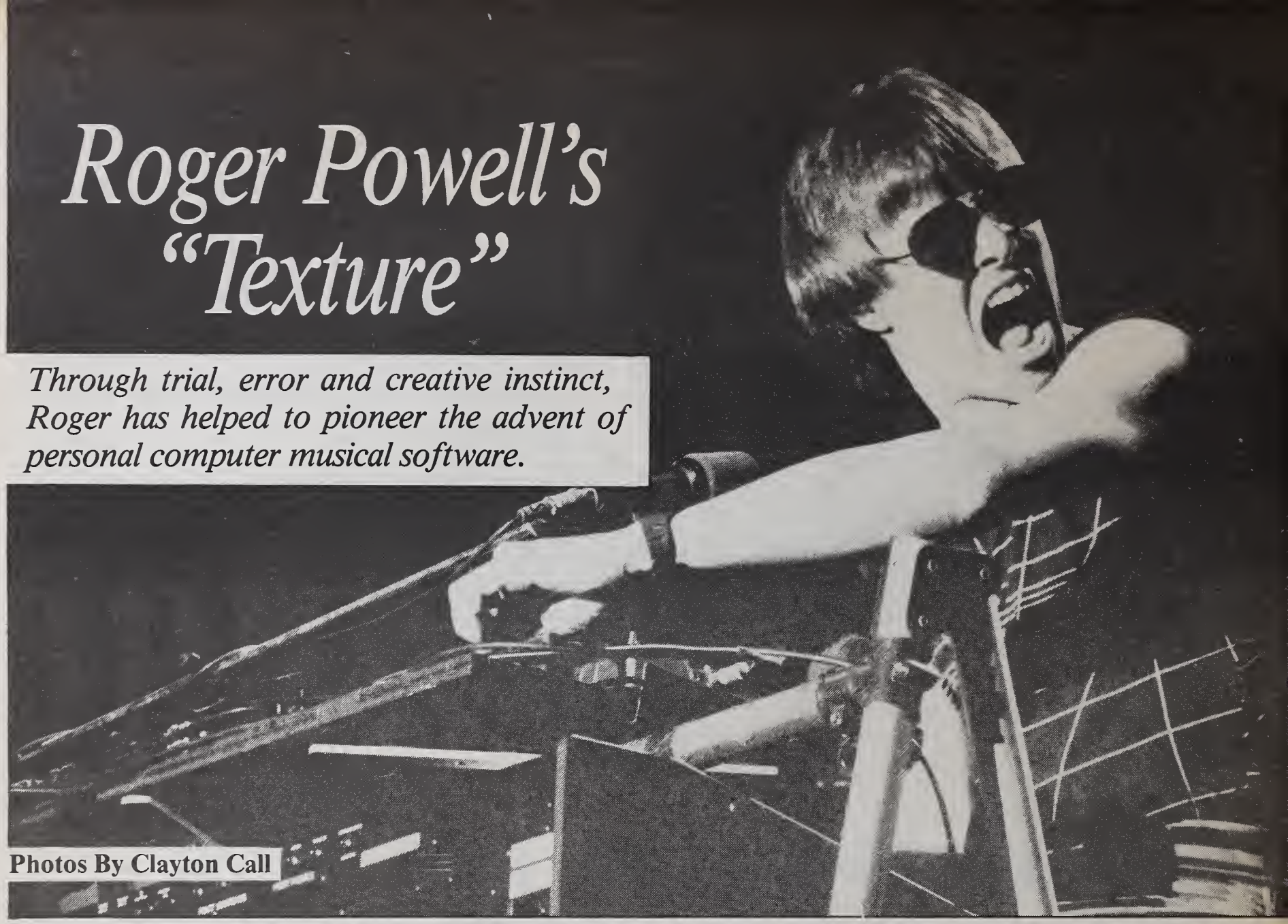
*Over ten, contact us for separate price and schedule.

1717 Old County Road • Belmont, CA 94002 • TELEX Number 345585

(415) 591-5705

Roger Powell's "Texture"

Through trial, error and creative instinct, Roger has helped to pioneer the advent of personal computer musical software.



Photos By Clayton Call

A Professional Music Software Package For Your PC

By Benjamin Krepack

For the past eleven years, Roger Powell has been the well-respected keyboard player for the rock group Utopia, an East Coast-based band featuring Todd Rundgren. Besides touring and recording with Rundgren and Utopia, Roger has taken periodic sabbaticals from the band to work on solo albums or to tour with rock legend David Bowie.

But tickling the ivory keys isn't all that Roger has been doing during these years. Through trial, error and creative instinct, Roger has helped to pioneer the advent of personal computer musical software. Today, besides his continued involvement in Utopia, Roger holds the position of Director of Product Development for an East Coast software house called Cherry Lane Technologies. Their flagship product is a program written by Roger called *Texture* that offers easy, flexible editing and manipulation of musical data.

Essentially, *Texture* is the superior alternative to a multi-track tape recorder because it allows a tunesmith to compose music, and make changes in that music, prior to having committed the composition to tape. "I tried to give some personality to this program," says Roger, "because besides being a programmer, I'm also a user. A very impatient user. I wanted the program to be somewhat humanized, and I wanted it to address the problems that musicians have to face when they're composing. Having all the experience that I have had with recording and composing, I designed a program which represents a process of working that is very streamlined. In other words, you can move around in this program extremely fast, and all the operations that are performed are more or less instant."

A few years back, prior to the arrival of the Apple and the IBM PC, the mixing of computers and musical instruments was both difficult and expensive. Now, as micros find their way into more and more households, and as MIDI, the industry standard interface between computers and synthesizers, comes into more common use, it has become possible to utilize the facilities of a computer to assist in musical composition.

"Basically," says Roger, "*Texture* is a production tool for musicians. Let's say that you compose film soundtracks and you want to do your composition at home, before going in to record at an expensive studio. This program will allow you to compose the music in your own home with just a handful of keyboards and a personal computer. After getting all your pieces together and editing them on the computer, you would take it to the studio, punch a couple buttons, and it all plays back as you've composed it."

YES, WE HAVE IT

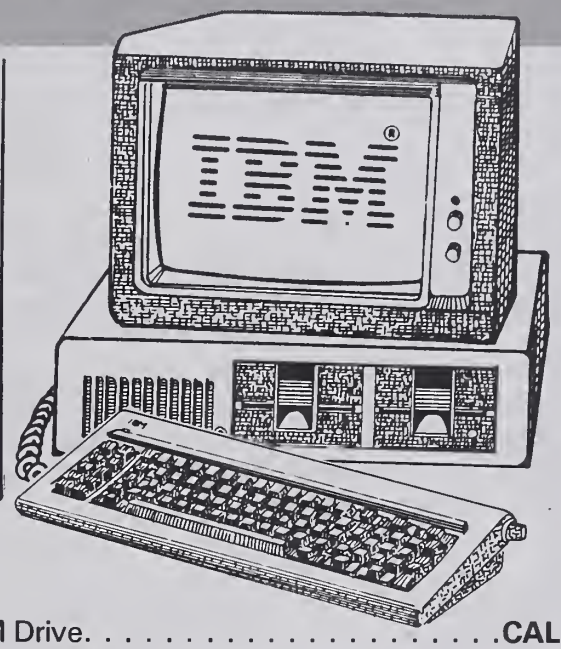
SERVICE, SUPPORT, SATISFACTION
ALL THIS WITH BEST PRICES

$1880
MONO SYSTEM

- **IBM PC 256K 2 ½ Ht. Floppy**
- **IBM Mono Display/Printer Adapter**
- **Princeton MAX 12 Monitor**

$2075
COLOR SYSTEM

- **IBM PC 256K 2 ½ Ht. Floppy**
- **Hercules Color Display/Printer Adapter**
- **Polo Color RGB Monitor**



Boards

IBM Enhanced Color Adapter . . . . . .CALL
IBM Color Adapter $240
IBM Mono Display Printer Adapter $220
Hercules Color Display Printer Adapter $180
Hercules Mono Graphics Display Printer Adapter $315
Quad Board 64K $245
AST Six Pack 64K $245
AST Advantage Expansion Board for AT w/128K $475
Paradise Modular Graphics Adapter $285
Tecmar Captain . . . . . .CALL
Tecmar Graphics Master . . . . . .CALL
Set of RAM Chips 64K $25
8087-3 Co-Processor $150
80287 Co-Processor for AT $350

Floppies

Teac ½ Ht. 360K $120
IBM 360K full Ht. $150
Floppy for AT . . . . . .CALL

Hard Disks

10 MB Microscience internal complete $625
20 MB Microscience internal complete $975
20 MB Hard Disk for AT . . . . . .CALL
40 MB/60MB with Tape Back-Up . . . . . .CALL

Software

Lotus 123 . . . . . .$275
Symphony $390
Word Perfect 4.0 . . . . . .$290
Framework $350
D. Base III $340
Multimate $275
Word Star 2000 . . . . . .$260
D.O.S. 2.1 . . . . . .$ 60
D.O.S. 3.0 . . . . . .$ 65

And all the other software with Best Prices

Computers

IBM PC 256K, 1 IBM Drive . . . . . .CALL
IBM PC 256K 2 ½ Ht. Drive . . . . . .CALL
IBM PC 256K 2 ½ Ht. Drive 10 MB Hard Disk $2250
IBM PC 256K 2 ½ Ht. Drive 20 MB Hard Disk $2540
IBM PC XT 1 IBM Floppy 10 MB Hard Disk $2800
IBM PC XT 1 IBM Floppy 20 MB Hard Disk $3250
IBM AT 512K 1.2 Mega Floppy 20 MB Hard Disk Serial Port $5200

Printers

Okidata 92P $350
Okidata 93P $560
Epson LX80 . . . . . .$290
Epson FX80 F/T $280
Epson FX80+ $380
Epson FX100+ $550
Epson LQ 1500 w/interface & tractor $1050
Juki 6100 P. $390
Juki 6300 P. $690
Toshiba P. 1340 . . . . . .$220
Toshiba P. 1351 . . . . . .$1280
Alpha Pro letter quality . . . . . .CALL

Monitors

IBM Enhanced Color Monitor . . . . . .CALL
IBM Color Monitor $545
IBM Mono Monitor $245
Princeton SR12 Color Monitor $560
Princeton HX12 Color Monitor $450
Princeton MHX12 Mono Monitor $180
Quimax Color Monitor $460
Quadram Mono Monitor $175
Amdek 316A Mono Monitor $160

Leasing, Financing Available with Professional Guidance

TEK COMPUTERS

2740 El Camino Real
Santa Clara, CA 95051

master charge THE INTERBANK CARD

VISA

(408) 296-0455

INSIDE CA. 800 - 824-6360
OUTSIDE CA. 800 - 225-5257

Texture is designed not to place any additional financial burden on the user for added hardware or memory. The program only requires a MIDI interface box and a computer. The software currently runs on the IBM PC and will soon be available for the Apple II. There are tentative plans to release a version for the Macintosh, although no release date has been set. Roger also hints that this program will be made available for use on personal computers not yet available that will emulate many of the Mac concepts, but will add color and perhaps include the MIDI interface built directly into the hardware.

"Using *Texture*, you can record on what appears to be eight tracks, just as if it were a multi-track tape player," explains Roger. "But the program is not actually recording the sounds that you play. Rather, it's recording a list of keys that were passed and the times when those keys were depressed. This is called Event Data. Once you have the Event Data stored in the computer's own memory, you then have the ability to manipulate the music in any way."

Roger's *Texture* program allows the musician to arrange the musical input in a variety of ways using simple, easy-to-use menu style commands and direct key functions. "It's very difficult to change a song once it's on tape. It is, however, very easy on the computer. With a couple key-strokes, for example, you can completely rearrange a song you've written."

The program allows access to the music at other levels too. A composer can change each individual note in the composition, change the key that the music is played in, slow down or speed up the tempo without affecting the pitch; *Texture* will even allow chosen segments of the composition to be played on different instruments than initially assigned.

Roger's involvement in the mixture of computers and music began in the late sixties when he went to work for the ARP synthesizer company. Realizing that some kind of automation was necessary to efficiently handle the controls of the sophisticated instrumentation coming out, he set out to develop a program that would do just that. Roger now takes pride in the fact that he was one of the "original hackers."

"When the first micros became available on a hobbyist basis, I went out and got myself a kit," he recalls. "All it had was a box full of printed circuit cards and a lot of chips. But by building it from scratch, I learned all about programming and I began to develop my own custom interfaces."

According to Roger, everything changed upon the arrival of the first Apple computer. "For me," he says, "it was like going from a horse and buggy into a race car."

As a classically trained musician, Roger continued to hone his programming skills and, in doing so, invented a couple of musical instruments along the way. He invented a hand-held keyboard called the Probe and, a few years ago, came out with his own digital synthesizer. Roger indicates that he has spent more time developing *Texture* than he's spent on any single piece of music.

"I've found it to be a completely natural process going from musical composition to programming," he says. "The structuring of ideas is all very similar. Obviously, when you're creating a program from the bit-level up, and you're trying to design a sophisticated, sensitive interactive piece of work, it takes a lot more meticulous attention and requires constant dedication. That's where the difference is. It may be even more difficult than putting together a whole solo album."

Now, with the first release of *Texture* available, Roger has hit the road with Utopia to play a series of concerts across the country to promote their new album, *POV* (see accompanying story). But despite his busy schedule, Roger remains dedicated to his involvement with computers. He frequently writes articles for various musician's publications and often consults others on both musical and non-musical computer applications.

"We're still very early in the musical software game," he says. "The hardware standard that's made it possible to develop useful software is only a couple years old, and people are just beginning to realize its availability. I see the direction of musical applications going pretty much the way that business software has gone. When computers first came out, you had stand-alone word processors, stand-alone data base managers, spreadsheets and graphics. Now you have integrated packages that do it all. The same thing is starting to happen with music software where we're attempting to centralize the editing and the storage of all sound data."

Texture was designed in a modular fashion, making it possible to integrate some added capabilities. A subsequent release of the program, slated for availability in about nine months, will include commands that generate lists of notes within specified harmonic boundaries to aid in the actual creation of a composition. "A computer does not substitute for creativity," warns Roger. "There's no guarantee that when you use this program you'll immediately write a hit record. It's merely a tool to assist and accelerate the creative process." (*Texture* available from Cherry Lane Technologies, 110 Midland Ave., Port Chester, N.Y. 10573. (914) 937-8601). □

TODD RUNDGREN Computers In Utopia

Many people know Todd Rundgren as the legendary guitarist who formed a rock group called the Nazz in 1967 and went on to compose a string of hits throughout the seventies. Since 1974, Todd has had two identities: his solo career and his membership in the group Utopia. His long list of production credits includes hit albums by such disparate artists as Hall and Oates, Psychedelic Furs, The Tubes, Alice Cooper, Patti Smith, Cheap Trick, Grand Funk Railroad and Meatloaf's multi-platinum debut LP. What most people don't know about him is that, like band-mate Roger Powell, Todd has also been involved with computers and software development.

But where Roger's hunger for more computer involvement has been driven by his love for composing, Todd's initial entry into high technology had more to do with the graphic capabilities of computers. "I've always been intrigued with graphics," says Todd. "I've written software for a company called Vertrix and I also wrote a program for Apple. Both of these were graphics-oriented packages."

Todd has recently merged his two worlds by incorporating graphics, generated by the Apple Macintosh, onto the cover and the outer and inner-sleeves of the new Utopia album, *POV*.

"When I started to lay out the graphics for the record, it was just that — a lay-out," says Todd. "I was just trying to come up with something simple that would allow us to experiment with a number of different formats. We decided we liked the look of it, so we transferred the whole thing onto the album cover."

Roger Powell says that he not only liked what he saw, but he felt it gave the band more freedom in choosing a typeface and graphic concept for the album. "We were just using the Mac for its marvelous art studio graphics capabilities," says Roger. "Suddenly, we thought, well, no one has done this yet, and someone is obviously going to do it soon, so why shouldn't we do it first?"

Todd also makes good use of the word processing capabilities of the Mac. "One of the reasons I got the Macintosh," he says, "was because of the easy word processing software. To me, *MacWrite* is an encouragement to document, which was the most difficult thing for me in terms of program development."

Computers fascinated Todd well before he got interested in writing graphic-generating programs. "When I was fifteen or sixteen," he says, "there were only two choices in my life as to what I was going to do. I was either going to be a musician or I was going to be involved in computers. A lot of people didn't know much about them, but it was always something that intrigued me. I used to go to the Bell Telephone billing office in Philadelphia and just hang out and watch people repair machines or see them shove punched cards into the card readers. I just loved the way it all looked."

Todd chose a career in music over computers for one simple reason: school. "I was not prepared to go to school anymore, and learning to work with computers would have required that. It wasn't until the late seventies, when personal computers became a practical reality, that I really started to get more involved. If you can learn to do it at home, it's fine with me."

Although Todd currently uses the Fairlight synthesizer as a song composition tool, and is looking forward to trying out *Texture*, he is skeptical about depending too heavily on the use of automated devices on the stage or in the studio. "It tends to take the identity out of the band," he says. "The last time we used tapes (pre-programmed music), it wasn't as much fun as just playing. The only real advantage to all this technology is to make music composition a more liberated and interactive process."

In fact, Todd won't even use his word processor for composing lyrics. "For me," he says, "writing words to a song means sitting down to scribble and cross out lines with a pencil and paper."

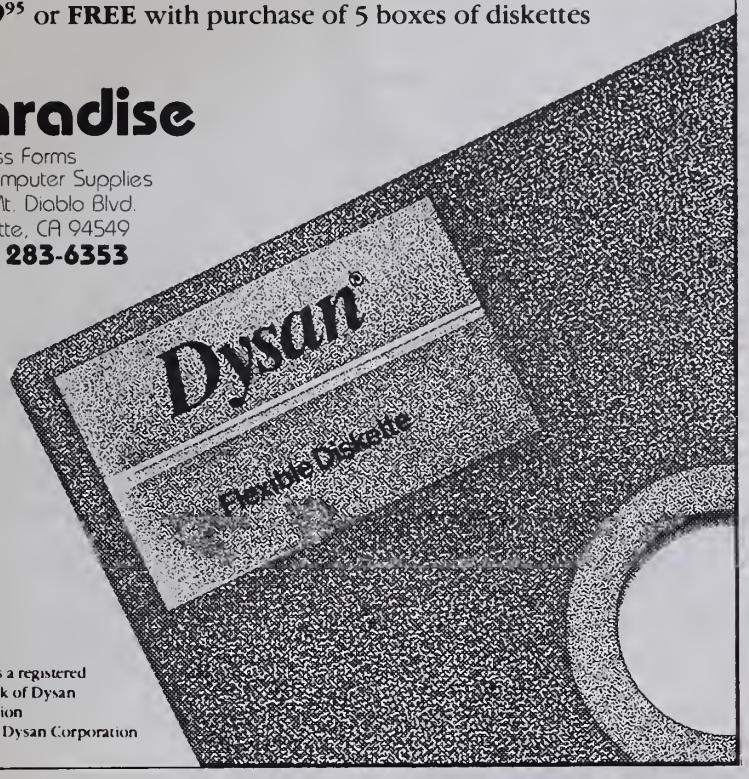
— Benjamin Krepack

You Won't Find A Better Place To Save.

Save your data on the better diskette, Dysan.®
Save on Dysan diskettes at Paradise.

- Dysan Diskettes, Box of 11, 5¼", DS/DD
  $39.95
- Dysan IBM PC/AT Diskettes 1.6 MB. Box of 10
  $59.00
- Dysan Head Cleaning Kit 5¼" or 8"
  $29.95 or **FREE** with purchase of 5 boxes of diskettes

Paradise
Business Forms
and Computer Supplies
3705 Mt. Diablo Blvd.
Lafayette, CA 94549
(415) 283-6353



Dysan® is a registered trademark of Dysan Corporation
© 1984, Dysan Corporation

COMPUTER DEALERS

NEC Home Electronics

AVAILABLE NOW!

COLOR MONITORS

We have five color monitors including a 13" RGB that doubles as a cable ready TV; two 14" high resolution and two 12" high resolution monitors.

MONOCHROME MONITORS

Including two green screens and an amber . . . all with NEC's famous high resolution and quality.

NEC'S FIRST TRANSPORTABLE PRINTER

This truly portable printer weighs a mere 14 lbs. and has a handle so you can carry it anywhere you take your portable computer.

LAPSIZE COMPUTERS

NEC now has two lapsize computers small enough to fit inside a standard size briefcase. Both run on batteries or AC power; both include a built-in LCD display and built-in software.

When You Need NEC Home Electronics Products, CALL CYPRESS Nearest You!

CYPRESS DISTRIBUTING CO.®

1266 Lincoln Ave. #109 • San Jose, CA 95125
7131 Owensmouth #D14 • Canoga Park, CA 91303

408 297-9800 **213 621-2201**

CYPRESS ALSO DISTRIBUTES: Daisywriter Printers • Juki Printers • Mannesmann Tally • Panamax • Toshiba Printers • Koala Speed Key • Legend Printers • Olympia Printers • Sanyo Computers • NEC Printers • Panasonic Printers—NEC Monitors • Columbia Data Products • Dataproducts Printers • Printwheels, Ribbons & Cables •

Complete Word Processing: ONLY $10

(Yes, We Said **TEN** Dollars!)

PC-Write™: Fast, Friendly, Flexible

PC-Write is a trademark of Quicksoft™ (For IBM PC, PC/XT, PC/AT, PC/jr, and true Compatibles)

Professional Features
- Complete set of word processing features.
- Also excellent for editing program text.
- DOS **standard files** use any ASCII codes.
- DOS 2.00 pathnames, PATH = command.
- Run DOS with editor and file in memory.
- Customize to foreign character sets.
- Supports **45 printers** or can customize.

Easy to Learn
- Tutorial in manual gets you started.
- Nine screens of **Help** if you get stuck.
- Type anywhere on screen; **no boundaries.**
- Backup, save, un-delete keys avoid loss.
- Keyboard is easy to learn, easy to use
- Fonts like **bold** and ***underline*** on screen.
- Works on PCjr and single disk systems.

A Pleasure to use
- **Fast editing** avoids distracting waits.
- Fast startup, save text to disk, exit.
- **Customize** your keyboard anyway you like.
- Record and playback repetitive sequences.
- Customize your screen colors and fonts.
- Split screen can **edit two files** at once.
- Transpose, change case, bookmark keys.

Only $10! How Is It Possible?

The creators of **PC-Write** call it SHAREWARE: software distributed for pennies, and which you may freely copy, because it's so good (it sports all the best advanced features) that many users will *voluntarily* support it by "registering" for a small fee.

Besides supporting shareware, registrants gain benefits (future updates, ***source code***, and more; details with order). It's like public television: contributing's nice (and has advantages), but ***you get it all*** anyway.

MAKE NO MISTAKE **$10** buys NOT a "demo disk" or a watered-down version, but the complete program, in all its speed and power! No gimmicks, no catches. No kidding!

Order ***PC-Write*** NOW! Only $10.00*, from
ProActive Systems/MT
POB 20179
Oakland, Ca 94620
*plus $1.00 shipping; California residents, please add $.65

MAC TAKES A HIKE

In Search Of The Ultimate Travel Accessory

By Ken Goehner

The Macintosh is a nice little computer. It's cute and fun and friendly. You may very well want to take it with you everywhere you go. If you are a journalist, computer specialist, or compulsive Mac hacker, this can be a professional or personal necessity. Becoming a Mac addict is a subtly quick and possibly terminal process.

There is no known cure. Until the advent of the Lap Mac, thousands and thousands of habitual users will be roaming the streets, buses and airports carrying a thirty pound habit, shifting it from hand to hand, walking leaned over to the left or right, sideswiping anyone who unwarily comes too close.

The only thing that can be done for the mobile user to help ease the pain is to make the burden more comfortable, more protective of the beloved Mac, and if at all possible, more stylish. We have, therefore, collected three of the best carrying cases for the Macintosh and

Rent an **$60.00 & up**

"800" Line © 1980

Toll Free 800 # Now for your advertising

We will:

Take orders for your products

Dealer Referrals

Literature Request Fulfillment

Nationwide 24 Hours a Day

High Tech Sales Support Our Specialty

800-772-2666 x10

The Anthem Product Line

May Specials

PC HARD DISK UPGRADES

AIM 130 MB SMD or SCSI
10 MB Transfer Rate **$3495**

TANDON ½HT 10MB **$399**

FUJITSU 86MB . . . . . **call for prices**

NEWBURRY 13 up to 53 MB **call for prices**

Tulin Half height, ST506 Interface
Model TL226 26.7 Bytes . . . . . **$749** Qty. one
Model TL240 40.0 Bytes . . . . . **$1099** Qty. one

Rodime ST506 Interface
13-53 MB, full height . . . . . **Call for prices**

CONTROLLER BOARDS

DTC 5150BX winchester . . . . . **call for prices**
DTC 5250CX combo . . . . . **call for prices**

FLOPPY DISK DRIVES

EPSON
48tpi **$95**
96 tpi . . . . . **call for prices**

Terminals

Qume
QVT-101 . . . . . list $395
in stock call for prices
QVT-108
12″ or 14″ . . . call for prices
AMPEX 230 .New Lower List & cost

Anthem systems
(408) 438-1900

6001 Butler Lane
Scotts Valley, CA 95066

UNIVERSAL AUTOMATED SOLUTIONS INC.

MON-FRI 10-6
SAT 10-5

415-943-6848
415-943-6908

1513 NO. MAIN WALNUT CREEK, CA 94596

COMPUTERS

IBM PC 256K DS/DD DRIVE (IN STOCK) . . . . . **$CALL**
LEADING EDGE MONOCHROME SYSTEM
256K 2 DS/DD DRIVE PAR & SER PORT
MONITOR, WORD PROCESSING, MS-DOS 2.1
GW-BASIC **$1595**
LEADING EDGE COLOR SYSTEM
SAME AS ABOVE WITH COLOR MONITOR **$1995**

MONITORS

PRINCETON HX-12 . . . . . **$455**
MAX-12 . . . . . **$178**
TAXAN KX-121 GREEN **$140**
KX-122 AMBER **$148**
420 HI-RES COL **$395**
AMDEK MONITORS . . . . . **$CALL**
QUIMAX MONITORS . . . . . **$CALL**

MODEMS

HAYES 1200/1200B WITH SOFTWARE **$395/375**

PRINTERS

EPSON LX80 W/TRACTOR **$275/310**
FX80+ **$380**
FX100+ . . . . . **$CALL**
STAR MICRONICS SG10 . . . . . **$CALL**
SG15 . . . . . **$390**
SD15 . . . . . **$480**
SR15 . . . . . **$650**
STAR POWERTYPE **$329**
BROTHER 2024L **$880**

CARDS

HERCULES CARDS . . . . . **$CALL**
TECMAR P C-MATE CAPTAIN/64K **$195**

DRIVES & CHIPS

IBM/CDC DRIVE **$155/135**
ALL HARD DISK SYSTEMS INSTALLED **$650**
64K RAM CHIPS per SET **$18**
SHUGART ½ HT/TEAC ½ HT **$115**

PRICE SUBJECT TO STOCK ON HAND

CALL US FOR THE PRICE ON OTHER PRODUCTS AND BUY AT WHOLESALE PRICE.
FURTHER DISCOUNT FOR VOLUME BUYERS.

ADD 3% FOR VISA & MC

DON'T BE FOOLED BY OUR PRICE, WE ARE NOT A DISCOUNT HOUSE.
WE PROVIDE CONSULTING, ANALYSIS, PROGRAMMING AND INSTALLATION SERVICES AS WELL.

WE CAN ALSO SHIP ANYWHERE IN THE INTERCONTINENTAL USA BY UPS

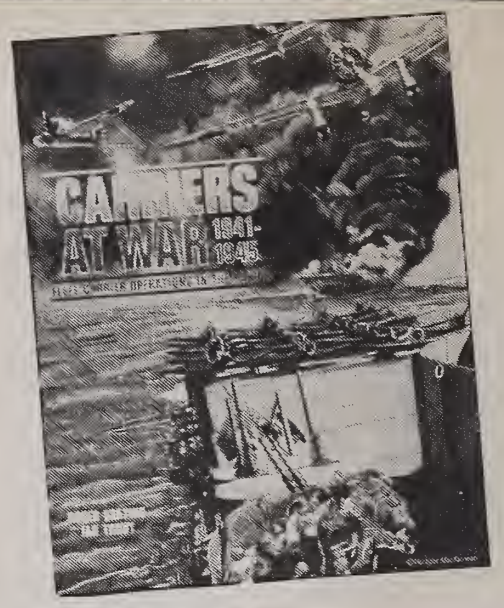
TRAIN DISTRIBUTION NETWORK

CALIFORNIA MAIL ORDER

IF IT'S NOT HERE, GIVE US A CALL!

GAMES

		LIST PRICE	TRAIN PRICE
CBS SOFTWARE			
APL-II	MURDER BY THE DOZEN	$34.95	**$26**
MAC	MURDER BY THE DOZEN	$44.95	**$34**
HAYDEN SOFTWARE			
APL-II	SARGON III	$49.95	**$40**
IBM	SARGON III	$49.95	**$40**
MAC	SARGON III	$49.95	**$40**
INFOCOM			
APL-II	ZORK I	$39.95	**$30**
	ZORK II	$44.95	**$34**
	ZORK III	$44.95	**$34**
	DEADLINE	$49.95	**$37**
IBM	ZORK I	$39.95	**$29**
	CUTTHROATS	$39.95	**$30**
MAC	ZORK I	$39.95	**$32**
	ZORK II	$44.95	**$40**
	ZORK III	$44.95	**$40**
	DEADLINE	$49.95	**$44**
	SUSPENDED	$49.95	**$44**
	STARCROSS	$49.95	**$44**
	SORCERER	$44.95	**$40**
	INFIDEL	$44.95	**$40**
	ENCHANTER	$39.95	**$32**
	SEASTALKER	$39.95	**$32**
	PLANETFALL	$39.95	**$32**
	THE WITNESS	$39.95	**$32**
MICROSOFT			
IBM	FLIGHT SIMULATOR	$49.95	**$34**
SPINNAKER			
APL-II	SNOOPER TROOPS-CASE #1	$44.95	**$34**
	SNOOPER TROOPS-CASE #2	$44.95	**$34**
SSI			
APL-II	WAR IN RUSSIA	$79.95	**$69**
	GERMANY 1985	$59.95	**$40**
	NORTH ALANTIC 86	$59.95	**$40**
	QUESTRON	$49.95	**$40**
	GEOPOLITIQUE	$39.95	**$30**
	RFD 1985	$34.95	**$30**
SSG			
APL-II			
COM-64	CARRIERS AT WAR	$50	**$38**
	REACH FOR THE STARS	$45	**$34**



CARRIERS AT WAR:

Sell your IBM stock; sell your car; sell whatever it takes—but find the money to buy this game.

COMPUTER GAMING WORLD MAGAZINE FEB 85

Relive WWII With *Carriers At War.*
Carriers At War is a breakthrough piece of software. It stands out from its combat-simulation predecessors . . . Not only can you play from either side, but you and a friend can play on the same side against the computer.

Compatible with Apple IIe and IIc or Commodore 64.

MICROTIMES MAGAZINE APRIL 85

LIST $50 **$38**

TERMS

All orders shipped UPS ground, AIR extra, Calif. residents add 6% sales tax. Cash or cashiers check on COD and add $1.90. Allow 10 days to clear personal check. Prices reflect cash discount and are subject to change without notice. Subject to stock on hand. All products are new, include warranty and are guaranteed by manufacturer. ALL SALES ARE FINAL. Call before returning goods for replacement. TDN does not guarantee compatibility.

IBM PC DOS

	LIST PRICE	TRAIN PRICE
BORLAND INT'L		
SIDEKICK	$54.95	**$43**
TURBO PASCAL	$54.95	**$43**
FUNK SOFTWARE		
SIDEWAYS	$60	**$39**
HARVARD SOFTWARE		
HARVARD PROJECT MGR	$395	**$349**
INFOCOM		
CORNERSTONE	$495	**$371**
LIVING VIDEOTEXT		
THINKTANK	$195	**$139**
MECA		
MANAGING YOUR MONEY	$199.95	**$139**
MICROSOFT		
CHART	$250	**$189**
MICROSOFT WORD	$375	**$329**
MONOGRAM		
DOLLARS & SENSE	$179.95	**$128**
ROSESOFT		
PROKEY	$129.95	**$87**

MAC SOFTWARE

HAYDEN SOFTWARE		
DA VINCI BUILDINGS	$49.95	**$36**
DA VINCI LANDSCAPES	$49.95	**$38**
LIVING VIDEOTEXT		
THINKTANK 128	$145	**$99**
MICROSOFT		
MULTIPLAN	$195	**139**
CHART	$125	**$89**
MICROSOFT WORD	$195	**$140**
FILE	$195	**$140**
MICROSOFT BASIC	$150	**$111**
MONOGRAM		
DOLLARS & SENSE	$149.95	**$119**

APPLE DOS SOFTWARE

BRODERBUND		
BANK STREET SPELLER	$69.95	**$47**
DAZZLE DRAW	$59.95	**$48**
THE PRINT SHOP	$49.95	**$35**
CBS SOFTWARE		
MASTERING THE SAT	$150	**$120**
LIVING VIDEOTEXT		
THINKTANK	$150	**$99**

714/651-8259

Order Form

Make checks or money orders payable to:
TRAIN DISTRIBUTION NETWORK
P.O. BOX 17875
IRVINE, CA 92713
or call
(714) 651-8259

VISA/MASTERCARD # _____
EXP. _____

Name _____
Address _____
City _____ State _____ Zip _____
Phone _____

ITEM	Quantity	Price
	Subtotal	
	Tax 6%	
	VISA/MC 3%	
	Shipping	$3.00
	Total	

COD orders add $1.90

rated them. We looked at construction, capacity, durability, and ease of use. All these packs will fit under commercial airplane seats. All the information reported is as accurate and complete as possible. The envelope, please . .

The winner and new champeen . . .
Totem, by Totem Inc.

Ergonomically speaking, this is unquestionably the best pack on the market. It is the only pack that addresses the painful problem of unequal distribution of weight on the skeleton of the carrier. You wear Totem like a backpack. If you have ever carried a Mac using a shoulder strap for longer than a block, you can appreciate the importance of this fact. Totem is the only pack which is actually comfortable to use. In addition, Totem comes equipped with a unique rigid handle that will not cut or chafe your hand when you carry it as a suitcase.

Totem features several other advantages to the user. It has more inside pockets for documentation, disks, and miscellaneous stuff than many other packs. It has a padded, detachable mouse pack. It will accommodate several different sizes and shapes of modems, a second drive, and a small surge suppressor. If you are really creative, you could probably fit in one of the new thin hard drives as well. Velcro is used to close all closeable pockets inside and out, and to secure the movable dividers. Due to the use of movable dividers, Totem is also the only pack that can fold up. You can store four or five empty Totems in the space of any other pack.

Totems are well padded, use high grade hardware including the finest tooth nylon zipper available (the finer the tooth, the higher the friction coefficient, thus the stronger the zipper), and made of heavy Cordura (a long-wearing, water-resistant synthetic) with a reinforced leather base. Totems are available in five colors: beige, royal blue, forest green, camouflage, and apple red. All Totems are covered by a lifetime limited warranty (don't use Totem as an ashtray or a football and expect the company to fix it), and all costs of shipment and repairs will be borne by Totem. **Totem: $134.50.** Totem Inc., 207 Gough Street #38, San Francisco, CA 94102, (415) 761-7920.

The Totem carrying case for the Macintosh can be used as either a backpack or a suitcase-type carrier. Photo: Ken Goehner.

Second Place
Mactote, by Optimum Computer Luggage

Obviously, most Mac packs are based to some degree on the original Apple Macintosh Carrying Case. While some developers, like Totem, took to radical departures from the basic design, other companies have pursued the idea of improving on the Apple pack. Optimum Computer Luggage is such a company. Their product is a real nice pack, well designed and soundly constructed, far superior to the Apple original.

Aside from the superior craftsmanship, there are several other major differences between the Apple pack and the Mactote. Most obvious is the heavy-duty padding. Mactote was designed with close encounters of the worst kind in mind. It has room for a modem and several more disks and documents than the Apple case. Finally, the strap configuration is different. Viewed from the top, the straps are attached center to center as opposed to Apple's corner to opposite corner. This alters the wearer's vocabulary of movement, but whether the difference is significant or not is hard to determine. Despite very generous shoulder padding, Mactote is still a one-strap bone cruncher.

Mactote is available only in dark blue, and has a one year limited warranty. **Mactote: $99.95**. Optimum Computer Luggage, 9005 Complex Drive, San Diego, CA 92123, (800) 632-4200, (800) 477-0300.

Third Place
The Apple Macintosh Carrying Case
by Apple Computer, Inc.

The great grandaddy of 'em all, an ancient year and a half old. This old feller set the basic design for all Mac packs, and left room for all the improvements. The original design must have looked grand, and indeed, the case does have that pleasant soft sculptured look that says "Apple" even without the logo. The interior is plush; the keyboard, external drive, and mouse pockets are padded. But it falls a little short of the mark.

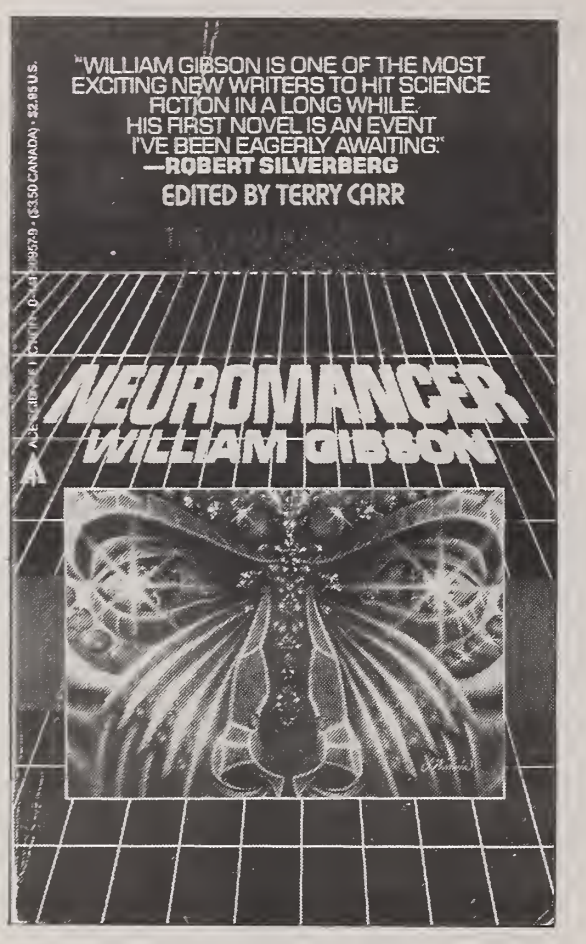
First, the zipper, which is a large nylon affair, looks friendly and opens and shuts very easily. It also opens when and where it shouldn't, and repair and replacement costs are high. Second, there is no room for a modem, and disk storage space is limited. Third, the exterior padding is very flimsy. Fourth, information on the warranty (if indeed there is one) is hard to come by. Our best guess is that there is a three-month Apple warranty, but we haven't been able to verify that. Your best bet is to consult your dealer, but be ready to hear something you didn't expect; several dealers have been heard to comment that they keep an Apple pack in their shops to help sell Totems and Mactotes. **The Apple Macintosh Carrying Case: $99.95.** Apple Computer, Inc. 20525 Mariani Avenue, Cupertino, CA 95014.

There are a couple of other Mac pack manufacturers out there. An outfit named West Ridge Design from Portland, Oregon, manufactures a virtual clone of the Apple pack (with a better zipper). The price varies with the distributor — West Ridge customizes its packs for different customers. We got ours at the University of California at Berkeley computer store. It sold for around $70.00 complete with a silk-screened U.C. logo, but you have to be a U.C. student to take advantage of that price at that store. We have not seen this pack at any of the conventions or at any other store.

There is also a thing called a Mac Scottie. It is about the size of a Macintosh packing crate, poorly constructed, and uglier than sin. The handles are horrible and there is no shoulder strap of any kind. We found this particular white elephant collecting dust in the corner of a local store. The rep wasn't sure how much the pack cost or if the company was still in business. his comment was something to the effect of "as a Mac pack, it makes an expensive footrest." Avoid this turkey.

To conclude: packs may seem an odd thing to review, but if you travel a lot, they can be one of the most important pieces of soft hardware for your Macintosh. We recommend that you seriously consider the Totem. It may list for a little more, but it pays for itself many times over in comfort and in ease of use. □

BOOKS


"WILLIAM GIBSON IS ONE OF THE MOST EXCITING NEW WRITERS TO HIT SCIENCE FICTION IN A LONG WHILE. HIS FIRST NOVEL IS AN EVENT I'VE BEEN EAGERLY AWAITING."
—ROBERT SILVERBERG
EDITED BY TERRY CARR
NEUROMANCER
WILLIAM GIBSON

Neuromancer

By: William Gibson
Published by: Ace Science Fiction Books, New York, 1984
Cost: $2.95 (paperback)

One of the great oversights of science fiction in the past few decades was its almost complete failure to predict the technological and social impact of the computer. Pick up any Sci-fi anthology of the 1950's and you will find spacecraft navigators calculating their trajectories with slide rules (footnote for younger readers of MICROTIMES: the "slide rule" was a primitive analog device that used mechanically superimposed log scales to perform simple arithmetic operations. In the precomputer age they were carried by scientists and engineers). William Gibson's first novel, *Neuromancer*, projects current developments in biotechnology and microcomputers into the twenty-first century (we never find out the precise year in which the story is set). It is a grubby future, peopled by some pretty grubby characters, but the hardware and software created by Gibson's imagination are dazzling.

Case, the anti-hero of the story, is a 24-year-old professional hacker, or "cowboy," who breaks into systems by projecting his disembodied consciousness into them. Caught in an attempt to double-cross one of his employers, Case was given a neurotoxin that destroyed his unique talents. At the beginning of the novel we find him lost in the underworld of future Tokyo, a nightmare landscape of black market electronics, exotic drugs and ninja-trained assassins.

On one level, *Neuromancer* is a detective mystery; a gradually unfolding search for the shadowy forces that are manipulating events. One is reminded of the plot of the movie *Chinatown*. On another level, the book is a classic anti-utopia story, a future gone bad, as in the movie *Blade Runner*. And on another level yet, the novel is about ICE — intrusion countermeasure electronics — the active defenses of the data banks and other entities that inhabit "cyberspace." A careless attempt to penetrate ICE can leave the trespasser "flatlined" — the flat electroencephalogram indicating brain death. Icebreakers, of course, are the programs, originally developed for military use, that can penetrate ICE — the classic race between guns and armor transplanted to electronic networks.

Many of the technologies that underlie this novel seem farfetched. We are still very far from a direct data link between the human nervous system and a machine intelligence. The idea of an entire human personality being stored as a ROM construct is equally outlandish. But then again, many of the things we do every day would appear to an educated, intelligent person of 1925 as the most outrageous science fiction. I believe *Neuromancer* will be of great interest to most readers of this magazine. Get it. Read it. Pass it along to friends.

— Mike Markowitz

Technostress: The Human Cost Of The Computer Revolution

By: Craig Brod
Published by: Addison-Wesley Publishing Company

Few of us pause to evaluate the impact of a new technology on our culture, our psyche, and our personal relationships. Unless there is noticeable damage to our physical self, like hair falling out or a change in a wart or mole, we prefer to leave such ponderings to the "ologists" and Andy Rooney.

In *Technostress: The Human Cost of the Computer Revolution*, psychotherapist Craig Brod examines the effects of computers on the people who use them, and the picture is not a pretty one. Brod observes that the computer revolution has created two classes of workers: those told what to do by the computer and those who tell the computer what to do. "The former consists of those who, bored and edgy, spend their days in front of the screen obeying commands. The latter struggle with machinery deadlines and the intellectual demands of producing more and more programs, feeling just as disgruntled as their subordinates."

Brod uses the term "technostress" to describe the "inability of an individual to cope with computer technologies in a healthy manner." Physical symptoms include headaches, neck and back problems, and visual fatigue, and Brod is not the first to discuss these. Perhaps more important, because they are less obvious and more insidious, are the emotional symptoms, which are the focus of Brod's work.

Technostress appears in two forms. One is anxiety arising from fear, resistance, or ambivalence towards computer technology. It is common among people who feel pressured by their employer, family, or our culture to become computer literate. Technoanxious people may worry about learning to use computers, which is rarely as easy as ads lead us to believe. They experience embarrassment and self-doubt if they are unable to understand procedures immediately. Predictably, this leads to mental and physical fatigue, low morale, and decreased productivity. Brod notes that workers often become so frustrated, they resort to acts of sabotage. (If you know what coffee does to your stomach, you can imagine what it does to a terminal.)

Another type of technostress is over-identification with computer technology. Technocentered people are so caught up in computer technology that they "internalize the standards by which computers work: accelerated time, a desire for perfection, and yes-no patterns of thinking." Conditioned to a response time for computers measured in nanoseconds (one billionth of a second), technocentered individuals are annoyed by the slightest delay. Machine structures and order are imposed on their personal life. Such people become irritable when things are not in their usual place or something interrupts their routine. Communication becomes terse, thinking becomes rigid, and there is a marked impatience with anything more than a yes or no answer. There can be no ambiguity. Everyday social interaction is often seen as an intrusion, and the technocentered person tends to become more withdrawn.

Brod's interest in technostress began when a patient, a computer programmer suffering from depression and marital problems, jokingly remarked that his wife "made a horrible peripheral." Further sessions revealed that it was not the man's personality or past experiences precipitating his difficulties. Rather, the problem was "inherent in the work itself."

Brod spent three years interviewing people of all ages and at all levels of computer involvement. His purpose is not to vilify, but to enlighten. In identifying problems, he offers suggestions for couples, parents, managers, teachers, and psychologists, from both a practical and a humanist standpoint.

The book has been criticized by people in the industry as being anti-computer. But anyone who works with computers, knows someone who works with computers, or has been served by a computer will, as I did, find the scenarios uncomfortably familiar. For instance, a programmer friend has recently taken to interrupting me with "so does that mean 'yes' or 'no'?" And now I think that the automatic teller that spits out my money in 6.5 seconds is slow. And a writing colleague complains that whenever writers get together nowadays, instead of talking characters, or plots, they talk about their disk drives. He notes that if he talked that much about his typewriter, he would have no friends.

Technostress is clear in both its style and its conclusion: "We must learn what computers can and cannot do, study how they are used and can be used in the future, question their impact, and develop appropriate strategies that allow high performance and personal well being to coexist."

— Pamela Pescara

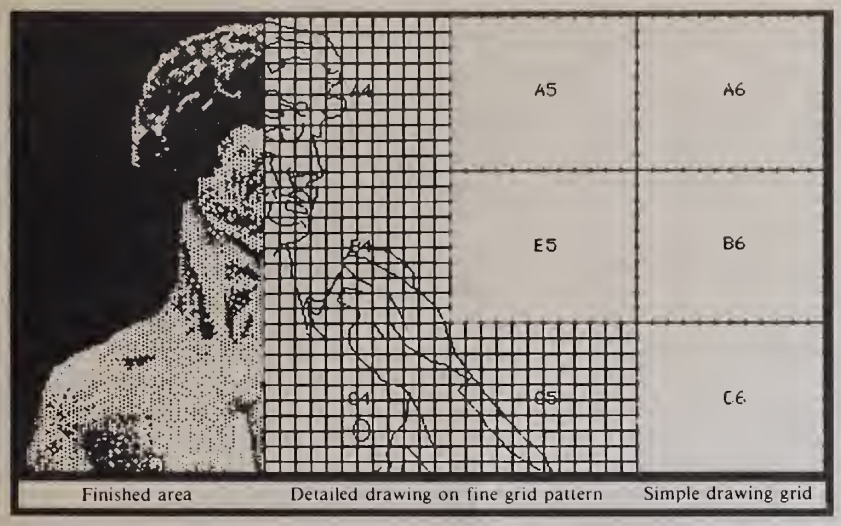
Software Royalties For Life

By: Jesse A. Jones
Published by: Concho Corporation
Price: $29.95

You look around and see other people getting rich, people no smarter or more ambitious than yourself. "How come?" you ask yourself. "How come I'm not raking it in, too?"

In his book on how to market a software idea, Jesse Jones offers some useful advice. He recommends that you use creativity and imagination to channel your idea into an efficient and appealing product. He recommends that you take time to come up with a catchy or serious name. He recommends that you price the software based on the services it will provide.

Jones, however, fails to follow his own advice. *Royalties For Life* provides some tips but little of the in-depth information that a prospective entrepreneur requires. The book's title (its cover shows a graphic of an expanding dollar-sign) is indicative of



Now anyone can copy or create accurate pictures on a Macintosh

Software, Tutorial 8 x 10 inch dual grid system

MacGrid™

A Mouse Graphics Breakthrough!

"With disappearing grid"

For your nearest MacGrid dealer call (415) 283-1082

Or write: Diablo Valley Design, 4103 Hidden Valley Road, Lafayette, CA 94549

Macintosh is a trademark of Apple Computer Inc.
MacGrid is a trademark of Diablo Valley Design

See Spring Issue of MACINTOSH BUYERS GUIDE, Page 110.

Dealer Inquiries Invited

$39.95

DISKS · 75¢

- QUALITY MEDIA
- LIFETIME REPLACEMENT GUARANTEE
- HUB RINGS · TYVEC EPS.
- WRITE PROTECTS

		50+	250+	500+	1000+
5.25" SSDD	1.00	90	85	80	.75
5.25" DSDD	1.15	1.05	1.00	95	85
PC FORMATTED	1.45	1.35	1.25	1.15	1.10
3.5" 1D (For Mac)	2.70	2.60	2.45	CALL	CALL
3.5" 2D (For HP)	3.50	3.25	3.15	CALL	CALL

Because we buy in huge volume to supply software manufacturers, our prices can't be beat.

Add $3.00 shipping and handling
(CA residents add 6.5% sales tax)
VISA/MC/COD

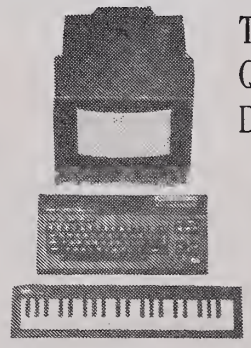
BLACKSHIP
COMPUTER SUPPLY

P.O. Box 883362
San Francisco, CA 94188
Inquiries + No. Cal. orders 415-550-0512
So. Cal. orders 800-235-6647 x31
USA orders 800-235-6646 x31

Get Interfaced

With the Newest Music Computer Technology Stevens Electronic Keyboard Centers are the South Bay leaders for Music and Computer Technology

Complete Selection of Musical Instrument Hardware



Yamaha	CX5M	Music Computer
	TX816	FM Tone Generation System
	QX1	Digital Sequence Recorder
	DX7	Digital Programmable Algorithm Synthesizer
Korg	DW-6000	Programmable Digital Waveform Synthesizer
	Poly-800	Programmable Polyphonic Synthesizer

Complete Selection of Music Software

Yamaha • Passport • Music Data

Electronic Music School

You'll learn to make music with your computer from the South Bay's most experienced Electronic Keyboard People.

6 week course only $80

Stevens Music

San Jose
1202 Lincoln
San Jose, CA 95125
(408) 287-9130

Santa Clara
5203 Stevens Creek Blvd.
(at the Lawrence Expressway)
Santa Clara, CA 95051 (408) 244-5500

UPGRADE SPECIALS

IBM: 899.95
Turn your PC into an XT with a 20 meg hard drive. Price includes formatting, controller and 90 day guarantee.

Macintosh: 279.95
We can upgrade your lean Mac to a fat Mac. Our upgrade is guaranteed to be 100% software and hardware compatible. 90 day guarantee on all parts and service.

MEMORY UPGRADES:
Available for IBM, Columbians, and Compaq..... $29.95 per 64K plus labor

We Have The Lowest Rates in Town!
Electronic Depot Repairs Personal Computers, Printers, Monitors, & VCRs.

Electronic Depot

Personal Computer Repair
700 Mowry Avenue, Fremont, CA 94536
415·796·5950

VISA MasterCard

the promises which continue to be made but are never fulfilled in the text. And the $29.95 cost of the paperback — advertised in computer publications under the headline: "HOW TO EARN A MILLION DOLLARS...WITH YOUR SOFTWARE IDEAS" — is outrageous for 136 pages (19 of which are blank) of very basic, poorly written commentary.

Jones is a salesman and not a writer, and his prose is full of cliches, redundancies and lists.

There are lists of cost justification determinants, positive personality factors, documents needed for a presentation and steps to go through to set up a company. The lists touch upon sound business fundamentals, but the short explanations of the themes are limited in scope. One list, for example, is intended to preface a section on how to turn an idea into a product. The list indicates some important themes:

1. SOUND IDEA
2. APPROPRIATE CHOICE OF COMPUTER LANGUAGE
3. CLEAN DESIGN
4. USER FRIENDLINESS
5. CLEAR DOCUMENTATION
6. FULL FEATURES
7. FLEXIBILITY
8. EXPANDABILITY
9. EFFICIENCY
10. TESTING AND VERIFICATION

According to Jones, this list "contains most of the characteristics necessary for a successful computer software product with a long life cycle." And, indeed, Jones offers a good list. But his explanations of the themes, in brief, almost outline form, over the next seven pages, do not provide the kind of information needed to take an idea through the complex stages of product design.

We are reminded throughout the book that Jones has sold more than 11 million dollars' worth of software in 15 years, and that he considers himself among the best salesmen in the world. Since he is a salesman, one wonders why he tried to write a book. The reader can't escape the notion that all Jones wants to do is sell, sell, sell. He doesn't teach or explain or entertain. He sells.

The book's literary faults would be excusable if Jones were able to exceptionally communicate his expertise in the field of marketing. But nothing about the book is exceptional, although some of the tips on salesmanship are intriguing.

One chapter, called "The Power Of Positive Visualization," consists mostly of Jesse Jones' tips on how to overcome fear and lack of confidence. The visualizations — imaginary scenarios of yourself greeting executives, making successful presentations, closing a deal and running your company — are intended to "replace the negative self-image that is common to most everyone."

In a chapter he calls "The Possible Dream Presentation," Jones takes the reader along as he tries to persuade "Tom, Dick and Harry" of a fictional software company in Philadelphia to purchase *Key-2* — a fictional program designed to reduce "the coding, testing and documentation of COBOL application programs by 30%, or more, in comparison to the standard COBOL compiler." The salesman prepares documents and a flip chart, he builds his confidence through the four stages of visualization, stays in a first class hotel when he arrives in Philadelphia (the extra money spent on the best hotel, Jones explains, "lifts my spirits"), goes jogging at 6:30 in the morning to get ready for his 10:00 A.M. appointment ("I'm a morning person"), gives his cab driver five dollars for $2.50 fare .... You get the idea. Well, he jokes with Harry, talks football with Dick and Tom, runs through his flip chart and closes the deal.

In the fictional software sales, Jones promises Tom, Dick and Harry profits and publicity. After he signs the contract with them, Jones turns to his reader, still making a sales-pitch: "**COMPUTER SOFTWARE IS THE MOST EXCITING AND PROFITABLE BUSINESS IN THE WORLD TODAY**," he proclaims in bold-faced type. "There is **no reason** why you cannot share in this 10 Billion Dollar per year industry and collect your *Royalties For Life*."

By the end of the book, it is clear that Jones' primary product is, simply, himself. He published the book himself, set up his own software company after finishing the book, and offers his own name and address as a consulting contact in case you and your idea need "additional encouragement and assurance." Thanks, Jesse, but what we really needed was more anecdotes, information, and guidance in your text.

His book contains too many ad-man slogans and reads like a combination of a Dale Carnegie self-confidence primer and a Dress-For-Success-style religious pamphlet. *Royalties* offers lots of hints on image and packaging but not a lot about what's underneath.

If you get to the point where you have a marketable software product, *Royalties For Life* might serve as a useful sales-technique handbook. Meanwhile, here are some other books worth looking at: *The Complete Software Marketplace* by Roger Hoffman (Warner Books), *Silicon Valley Guide* (to financial success in software) by Daniel Remer, Paul Remer and Robert Dunaway (Microsoft Press), and *Up And Running* (adventures of software entrepreneurs) by Charles "Ed" Sherman (Ashton-Tate).

— Mitch Gelman

Compute!'s Guide To Adventure Games

By: Gary McGath
Published by: Compute! Publications, Greensboro, NC (1984)
Cost: $12.95

Text adventure games can be extremely frustrating for the beginner. Since most game reviewers are usually fanatical true believers, or at least experienced players, reading a review may not be too helpful to the buyer. Before shelling out forty or more hard-earned dollars for a game, it might be advisable to invest thirteen or so in this little book for some good advice.

Beginning with the first "crude" adventures written in FORTRAN and ARPAnet mainframes (back in the prehistoric early 70's), Gary McGath traces the evolution of the art form. Many early games were simply copies of the "Dungeons and Dragons" format. More recently, science fiction themes and mystery novel forms have become more popular, and some of the better game designers have tried to tone down the level of violence in the games.

The common feature of all adventure games is interaction between the player and the program: the player types in commands and the program responds by having the character move, manipulate objects or perform other actions. The best games require the player to use imagination and creativity to solve a series of puzzles that advance toward some defined goal (collect treasure, kill the evil wizard, find the guilty suspect, discover the lost city or save the earth for example — hopefully not all in the same game.) The heart of a text adventure game is the "parser": a set of routines that analyze and interpret the player's commands. A sophisticated parser can handle complex commands, and respond appropriately to a wide variety of inputs. This contributes to the illusion that one is interacting with a conscious entity, rather than a set of arrays, logic rules and "if ... then ..." statements. Still, when you tell one of these little entertainments to DROP DEAD, it will probably respond with a message like "YOU AREN'T CARRYING ANY DEAD."

Individual chapters review the products of Infocom, Scott Adams, Sierra On-line, and other software publishers. The list is not exhaustive or fully up-to-date as of the end of 1984, but a good selection of popular titles is covered. Overall, the reviews are thoughtful and critical. Cryptic hints are provided for some games, to help the player without "giving away" the whole show.

The chapter titled "A Field Guide for Frustrated Adventurers" is worth the price of the book. It explains in detail how to map out a maze, and provides extensive advice on problem solving, illustrated with clever examples:

The eastern wall of the room has a large red heart painted on it
> **KICK HEART**
Why would anyone kick a heart?
> **PUSH HEART**
Pushing the heart doesn't do any good
> **PUSH WALL**
Pushing the wall doesn't do any good
> **BREAK HEART**
Heartbroken, the wall collapses into a shower of tears
> **GROAN**
I don't understand that

A chapter on "How they work" clarifies the structure of the adventure game, with lucid explanations of such concepts as the Main Loop, the Parser, the Internal Map, the Object Descriptor Array, and Action Routines. For the first time, I was able to understand how a game actually works in software terms, and how much the designer has to pack into a few thousand lines of code. The chapter on "Doing Your Own" provides a wealth of suggestions for the aspiring game programmer, using a "pseudo-code" notation that is readily translatable into any high level language. The advice to "design first and code afterwards" should be engraved on every programmer's heart in letters of fire.

Finally, a tiny adventure, *Tower of Mystery*, written in about six pages of BASIC, is provided. It looks like a lot of typing, but it illustrates in working form many of the ideas discussed in the book. (There are alternative versions for Atari and TI BASIC as well as the Microsoft standard.)

Anyone serious about computer adventure games will find an abundance of good things in this book. It is spiral-bound, like many software manuals, so it will lie flat on a desk, and the laminated cover will resist blood, sweat and tear stains.

— Mike Markowitz

1985 Computer Buying Guide

By: The Editors of Consumer Guide
Published by: Signet
Price: $4.50

This little paperback attempts to rate the best personal computers, peripherals and software in the space of 384 pages. "Computers" here includes chapters covering IBM Compatibles, Portables, Home Computers and "Other Computers." Periph-

SP COMPUTERS INC.
COMPARE AND SAVE

HEY, LOOK US OVER - TO SERVE YOUR NEEDS IS OUR BUSINESS!

DEAR COMPUTER USER,

Our motto is **"COMPARE AND SAVE"** and we mean it! Our success is directly attributable to the price and quality of our products, a dedicated commitment to working with our clientele, unsurpassed customer support and the ability to listen so that we can better meet your needs with new products and services.

PRICING? You will find that our pricing is very competitive. We are established in "Silicon Valley", the very heart of the world computer industry so we have close contact with all the major sources of hardware and software. This allows us to obtain the various best-selling top quality items at promotional prices for you. For instance, any week each of the major distributors may have a different item or two at special prices, we will "shop around" and buy these in bulk at the time. Call or visit us with your needs and get the best quotes from us.

In addition, we receive a further price break of the constant volume which we buy. In this way we are able to pass the advantage on to you for even minimal purchases.

We have designed our facilities to give you the maximum service but have eliminated the unnecessary "frills" so that overhead is kept at an acceptable level. The resulting savings are yours.

DELIVERY? Fast! Close proximity and a good relationship with suppliers allows us to get out-of-stock items almost immediately and dispatch them to you straight away.

Our staff has had many years of experience in dispatching from this area, all over the country and the world, by the most efficient means. We specialize in exporting through all available channels.

SUPPORT? The staff at SP Computers devotes extensive time to answering questions and requests for additional information concerning personal computers. Our goal is to provide this assistance to you. The staff may be reached by phone at any time during working hours to answer questions you may have on products purchased from us. The direct number for this service is (415) 340-1017 and when you call, we promise not to keep you on "hold".

In addition to this, if you are holding a special event such as a sales presentation or training seminar, SP Computers will provide information, advice and additional support that you may need.

Try us! When you get to know us we will become friends.

Yours sincerely,
Jim Mukhi
SP Computers, Inc.

BUSINESS SOFTWARE

ASHTON TATE
dBASE III $369.00
Framework 369.00

BORDLAND INT'L
Superkey unpro. 57.00
Turbo Pascal 3.0 ..... 43.00
Turbo Pak: Pascal, Tutor, Toolbox 74.99
Sidekick (pro) 35.99
Sidekick (unpro) 54.99

DIGITAL RESEARCH
Gem Desktop 32.97
Gem Draw 95.00
R.M. Fortran 360.00

HARVARD
Project Manager 299.00

INFOCOM
Cornerstone 295.00

LIFETREE
Volkswriter Deluxe 169.00

MICRORIM
Clout 159.00
RBASE 5000 ..... 447.00

MICROPRO
Wordstar 2000 ..... 260.00
2000 Plus 325.00

MICROSOFT
Basic Compiler 257.00
Fortran Compiler 230.00
Basic Interpreter 225.00
Mouse 135.00
Word w/spell 245.00
Spell 39.95
Flight Simulator 32.97

MICROSTUF
Crosstalk 125.00

PETER NORTON
Norton Utilities 65.00
Office writer w/spell 275.00

SORCIM/IUS
Easywriter 2 ..... 195.00
Supercalc III 189.00

SOFTWARE PUBLISHING
Holiday PAK: Write, Plan & Graph .. 150.00

SATELLITE
WordPerfect 4.0 ..... 252.00

UNISON
Print Master 36.99

WARNER BROS.
Desk Organizer 119.00

ZANARO
Ability 299.00

ACCOUNTING
Peach Pak 4 ..... 249.00
Star Pak 4 ..... 237.00
BPI - GL/AR/AP ..... ea 360.00
IUS - GL/AR/AP ..... ea 295.00
Open Sys. GL/AR/AP ..... ea 399.00
STATE OF THE ART ..... ea 350.00
Real World 3.1 ..... ea 390.00

IBM PC WITH 256K

* TWO 360K DS/DD Floppy drives, Keyboard, DOS 2.1, Amdek monitor, Monochrome board and parallel printer port w/free software.

ALL FOR ONLY $2,250.

IBM XT WITH 256K

* One 360K DS/DA Floppy Drive, keyboard, DOS 2.1, One 10MG Hard Disk, Amdek 300 Color Monitor/Audio, Color graphics Board with Parallel port

CALL

Peripherals

* Expanded Quadboard zero K memory **$221.25**
* Hercules color card **160.00**
* Graphics monochrome **310.00**
* Teac Disc Drives **97.00**
* Toshiba Disc Drives **95.00**

WE CARRY A FULL RANGE OF SOFTWARE FOR MACINTOSH, APPLE AND IBM COMPUTERS - FOR YOUR HARDWARE CALL FOR BEST PRICE!

*Prices subject to change without notice *No surcharge for VISA or MASTERCARD *Purchase Orders Welcomed from Institutions *Shipping UPS surface minimum $4.00 within Continental USA for software *Please add 2% for handling & insurance *California residents please add sales tax *Payment: Mastercard, Visa, C.O.D., Money Order or Check*

SP COMPUTERS INC.
COMPARE AND SAVE
851 BURLWAY ROAD #303 P.O. BOX 4073
BURLINGAME CALIFORNIA 94010-1872 U.S.A.

(415) 340-1006

erals include Disk Drives, Hard Disks and Tapes, Modems, Monitors, Multifunction Boards, Printers and some interesting miscellaneous items. Software reviews represent a little less than half the book, with a handful of popular titles in the categories of Communications, Data Management, Educational Software, Financial Software, Games, Integrated Software, Utilities, Word Processing and others.

In general the reviews are not highly critical; almost nothing is rated less than "7" on a ten point scale. Computer reviews run from one to three pages, and include a small photograph, basic specs and some sharp, knowledgeable observations. Prices reflect mid-1984 suggested retail, but across the bottom of every page the authors remind you that "prices may vary; shop for discount prices!"

For the money, the *1985 Computer Buying Guide* is an excellent value. For the beginner, or anyone who needs basic reference information on a variety of systems (like *Microtimes* writers often do), it will be a useful desktop companion. For software reviews, however, the big catalogs and specialized periodicals are your best source of up-to-date product information.

— Mike Markowitz

Making Music On Micros

By: Fred T. Hofstetter
Published by: Random House, 1985

This package is for users of the IBM PC or PCjr, Apple II, Apple II+, Apple IIc and IIe. IBM PC users will need a color graphics monitor adapter for some of the programs included. Apple II users must have 48K RAM with Applesoft ROM or language card. Note to Apple users: The Apple version of this product contains enhancements to Apple BASIC that enable you to use "sound," "play," and "draw" commands similar to those found in IBM BASIC.

The idea of teaching yourself music and BASIC programming from the same book at the same time may seem far-fetched at first: you would not, after all, try to learn, say, French and German this way.

Fortunately music and BASIC are not much like French and German, and *Making Music On Micros* is a lot more fun than learning is usually assumed to be. In addition, this book and the diskette that accompanies it are ample testimony that computer music doesn't have to be weird music.

In *Making Music On Micros* you will discover not only the rudiments of music (pitch, tempo, touch, notation, and the like), but also the commands that turn your computer into a musical instrument to play the programs you write for it.

These topics are introduced in a step-by-step, orderly fashion that shouldn't lose anyone on the way. The documentation is plentiful and easy to understand. Readers already familiar with the basics of music and BASIC should at least scan through the early sections of the book before running off to the special effects chapter to produce glissandos, portamentos and pizzacatos.

The section on composing melodies is particularly helpful. The topics introduced include time signatures, rhythms, motives and phrases. There are fine examples of reading musical notation to spot motives and variations on motives, and the programming techniques used in this chapter begin to introduce the notion of macros in a painless way. The composition exercises are helpful in showing how melodies are constructed, and by the end of the chapter you will probably be able to write folk songs for your computer.

There are some aspects of music that are not easily taught on personal computers, and, in general, *Making Music On Micros* steers clear of these. Most of our computers are incapable of making "multi-voiced" music, so chords are a problem. For PCjr owners *Making Music On Micros* does include a chapter on multi-voiced music. Further, the "play" command does not easily recognize key signatures, so musical keys and transposition receive only scant attention.

On the computer side of things *Making Music On Micros* teaches several things apart from techniques for using the "sound" and "play" commands. You will learn how to use BASIC to create menus to manage the programs/tunes you create. For those inclined to graphics, subroutines are provided to draw commonly used musical symbols (staffs, clefs, etc.) on the screen so you can translate your programs into standard musical notation. The diskette included with the manual contains sample programs illustrating the use of menus and the graphics subroutines.

Making Music On Micros is an excellent learning tool that will more than repay you for the time spent typing in commands in BASIC. You might discover that you have a talent for music or programming or both, but even if it turns out that you are not the Beethoven of personal computers, this is a book you will enjoy.

— Bennett Falk

Bit By Bit: An Illustrated History Of Computers

By: Stan Augarten
Published by: Tickner and Fields, New York

If the computer world has an identity crisis, it is probably due to the fact that very few of us have been involved with computers long enough to remember the beginnings. I remember my first time on an IBM 360 terminal at a local junior college here in California. I was 11 years old and the fact that I could "talk" to that immense machine filled me with wonder and excitement as I began to work on what was then one of the most powerful computer systems in the world. That was over fifteen years, and many generations of computer technology, ago. My memories of those days of batch processing, timesharing, and all-nighters are beginning to fade now, and I wish I could remember more of the "good old days" of computing.

Luckily, Stan Augarten has produced a little gem of a volume called *Bit by Bit* which captures much of the history and flavor of those early times. From the Chinese abacus, through the early calculating engines of Babbage and Pascal, to the early ENIAC and SAGE computers of the forties and fifties, to the boy-wonders of today's Silicon Valley, *Bit by Bit* is a wonder to read and remember. Written much in the style of the now famous *Connections* book and PBS TV-series, *Bit by Bit* takes the reader on a journey down the pathways of numbers and information processing from the beginning of time to the present. Such important developments as the corporate beginnings of computer giants like IBC, Digital Equipment, Fairchild, and Apple Computer are covered, as well as the development of the transistor and the integrated circuit. In addition, the book explores many of the fascinating personalities that have made the computer revolution happen. *Bit by Bit* is lavishly illustrated with photos which clearly explain some of the most revolutionary developments in the history of technology.

Without question, *Bit by Bit* should be in the library of everyone even remotely involved with or interested in computers. With excellent coverage and very few omissions, it unfolds the history of what is one of man's most important inventions — the computer.

— John D. Gresham

EDUCATIONAL SOFTWARE

Charlie Brown's ABC's

Published by: Random House Software
For: Apple II+, IIe, IIc

Targeted for the age 3 to 7 crowd, *Charlie Brown's™ ABC's* offers a product that includes excellent animated graphics in which the whole Peanuts gang — Charlie Brown, Lucy, Snoopy, etc. — are used to help teach recognition of the ABC's. Constructed with the aid of the *Complete Graphics System II*, the Peanuts gang is presented in humorous full color graphic situations and scenes that illustrate items beginning with each letter of the alphabet.

Included with the program disk is a documentation booklet. This booklet completely describes the operation of the program, as well as description of "alternate activities." These alternate activities are offered to allow the user to utilize the program in a variety of "games" to increase the learning experience. Some of these activities include the use of a set of color printed "Activity Cards," a set of small letter/picture "flash cards" included with the program disk.

While reviewing the program in collaboration with a four-year-old, I noticed that two areas could be improved to offer a stronger package. First, the program requires the user to "request" each letter of the alphabet to be displayed. Second, the program displays both the upper case and the lower case letters on every display.

To begin the program, the user is requested to enter any letter (letters A through M are on one side of the disk, and N through Z are on the reverse side of the disk). Once entered, the initial display containing both the upper case and lower case letter is presented with an object that begins with the letter (i.e. a piano for P, a radio for R, etc.). After the initial graphic is presented with letters and object, the user then identifies the letter by pressing the key containing the letter. The screen then fills with an animated scene containing a Peanuts character using the object while a brief tune plays.

From this point the user must select a new letter for display (by pressing another key) and repeating the process. This process is continued throughout the entire alphabet. This mode of operation appears to be a bit too demanding for a 3 to 5-year-old age group, and would probably lead an unattended child to continually review the same letter (or group of letters) without trying others. (While it is possible to "step" from one letter to the next using the arrow keys, this mode of operation is not much better.) Other packages on the market, such as Springboard's *Early Games for Young Children*, offer a mode of operation where the program proceeds from letter to letter, in a random fashion, after the user correctly identifies the displayed letter. Combining *Charlie Brown's ABC's* animated graphics with an automated selection mode would provide a much stronger package.

As previously mentioned, each letter displayed is presented with both the upper case and lower case letters together. This is an acceptable mode of initial learning. However, when compared with other offerings on the market, such as Springboard products, the ability to present just the lower case letters on a display would greatly enhance the overall learning experience that the package could offer.

The program has both standard features seen on other products, such as the ability to toggle the sound off and on (nice when you don't want to disturb others in the room), and features that are pleasant but do not enhance the learning experience, such as the ability to enter the child's name permanently on the disk (the initial display then presents "This Disk Belongs to: Suzie"). The child's name is a nice touch but could cause problems in households with more than one child.

— John Boone

OSBORNE™

SALES AND SERVICE

MISSION PEAK SYSTEMS, INC. is a fully Authorized Dealer for Osborne Computer Corporation, but that is only the begining of our story. Mission Peak Systems, Inc. has been repairing Osborne products at a reasonable price with a speedy turn around for over three years! That's right, Mission Peak Systems, Inc. is staffed completely with ex-Osborne Field Service employees who have been repairing and servicing Osborne's for three years. The employees of Mission Peak Systems know more about Osbornes and Osborne related products than anyone in the world! This is not the end of our story. We have established a network of Osborne dealers and service depots nationwide that will repair your Osborne, under warranty if purchased from Mission Peak, so you can travel with out fear of a breakdown.

Besides service and repair we offer:

- Osborne 1 and Executive computer, new and used, with a 90-day warranty
- Upgrades, (80 column, double density, hard disks, ram disks, etc.)
- Accessories, (cables, modems, software, etc.)
- Extended warranties (90 day and 12 months; subject to prior inspection)

OUR STORY IS NEVER ENDING!

MISSION PEAK SYSTEMS

3514 Arden Road, Hayward, California 94545 • (415) 887-0756

PRONOUNCE™

SPEECH INPUT SYSTEM—Runs any MS or PC DOS software with a word or phrase!

"The ONLY voice recognition system that works and is priced right!" —San Jose Mercury News

"Now your IBM PC works with ANY STANDARD MOUTH! PRONOUNCE lets you talk to your computer rather than pound on the keyboard." —S.F. Examiner

LIST PRICE ~~$895.00~~ Only $849.00!

- *DEALER INQUIRIES WELCOME*

(Volume and Systems Developer Discounts Available)

WE ALSO FEATURE:

•CLIPPER™ the first and only dBASE III™* compiler! Run programs 3 to 20 times faster! Does *not* require dBASE III™* or any further licensing requirements! Only $695.00!

•KEYPORT™ 300 pressure sensitive touchpad replaces keyboard! With Development Kit and word processing or spreadsheet kit! List price ~~$383.00~~—call for discount!

DELTA INFORMATION SYSTEMS, INC.

150 Chestnut St., San Francisco, CA 94111

(415) 362-6663

*dBASE III is a trademark of Ashton-Tate

TOTAL MOUTH CONTROL™

☐ YES, I WANT TO TALK TO MY COMPUTER!

I would like to know more about:
☐ CLIPPER ☐ KEYPORT 300

Mr./Ms. _____

Company _____

Address _____

City, State, Zip _____

Phone # ( ) _____

I own an IBM PC or compatible ☐ yes ☐ no

mt

GRAPHICS SOFTWARE

Paint Magic

Published by: Datamost
Designed by: Mark Riley
For: Commodore 64

I once read a story that told of an incident that happened to Michelangelo (or was it Leonardo DaVinci?). He was invited to a royal party and had lost his invitation. The guards at the palace gates would not let him pass unless he could prove his identity. After a moment's reflection, he knelt down and, without the help of any drawing aids other than his pencil, he drew, freehand, a perfect circle on the palace steps. The guards immediately granted him entry. This story is impressive because most of us have difficulty drawing a straight line even with the help of a ruler. Not so anymore, thanks to *Paint Magic*, a software package from Datamost.

Paint Magic is an easy-to-use graphics package that allows you to draw lines, boxes, circles and rays in the sixteen Commodore colors and gray tones. A press of a key will allows you to fill areas of your drawing with solid or patterned colors. Another handy feature is the two canvases that *Paint Magic* maintains. One canvas is on the screen and the other is kept in memory. The one in memory can be brought to the screen at any time or merged with the current working canvas with simple one-key commands. A magnification feature allows pixel-by-pixel refinement of a drawing, permitting the artist fine control over detail in his creation.

The documentation is brief (16 pages) but to the point. The booklet is well written, easy to understand and provides a summary of commands at the back. A summary of commands is also provided on the disk and can be brought to the screen at any time by calling the command menu. Help and color menus are also on the disk.

The most endearing feature of this software package is that it is easy to learn to use. I produced my first picture in less than an hour by reading through the directions once and keeping the book handy for reference. However, there are some distinct drawbacks.

One noticeable drawback is that there is no easy line erase. The only way to erase a line is to carefully superimpose another line on top of it and color the superimposed line to match the background. Also, there is no command to dump the screen to a printer. The most disturbing problem I ran into is the fact that the disk comes with no write protect tab and, although the documentation refers to saving your created graphics on a formatted blank diskette, there is plenty of memory on the program disk. The lack of a write protect tab and no warning in the documentation would seem to indicate that saving a graphic to the available memory on the program disk would be all right. WRONG! If you buy *Paint Magic*, do not, repeat do not, try to save a graphic onto the program disk. I destroyed part of the directory on my *Paint Magic* disk in attempting to do this. I would suggest that Datamost either put a write protect tab on their disk or a warning in their documentation (or, preferably, both), to prevent other users from making the same mistake I did. Ears must have been burning at Datamost because I definitely voiced opprobrious epithets when I discovered what had happened. But aside from the few reservations mentioned, *Paint Magic* is an easy-to-use graphics software package for the beginner.

— Gordon Bruce

GAME SOFTWARE

Skyfox

Designed by: Ray Tobey
Produced by: Electronic Arts
Available For: The Apple II Family Of Computers

This program is a "view from the cockpit game," not a simulator in the sense of *Flight Simulator II* or *F-15 Eagle*. Although it does not simulate any particular plane or system, it has what are probably the best 3D color images of any flight simulator. You get the feeling of three dimensional flight, without the "roll till you're sick" feature of the *F-15 Strike Eagle* game; it is also easier to keep your relative position in the universe in good order. Further, it maneuvres much faster than *Flight Simulator II*. All this translates to a fast moving 3D arcade game.

The object of the game depends on the scenario you choose. The game consists of eleven scenarios, with several levels of play difficulty. At the lowest level, your plane will automatically return to base as needed. At the highest level you are attacked aggressively and relentlessly. The enemy attacks with tanks, airplanes, Motherships or combinations of these weapons. The enemy weapons are shown on the screen in high resolution. A cloud layer divides the ground and the air game.

Your cockpit view has Guided Missile Count, Clock, Fuel, Speed, Radar Scanner, Heat Seeking Missile Count, Auto Pilot, Shield Indicator, and an Altitude Indicator. At the top of the screen is an XY position indicator. Your instruments must be watched so that you know when to return to base for fuel, repairs or weapons. Your radar has two choices (forward looking) which allows you altitude and an all-around view to get an idea of the direction of the enemy attack. At the lower levels, the shields will give quite a bit of protection from accidental impacts with the ground. At the higher level scenarios, you will need to have learned how *not* to hit the ground.

Watching the XY indicator is important to keep track of where your home base is relative to your current position. It also is useful in developing your strategy for destroying the attacking enemy.

The object of the game is to destroy the enemy, and to have fun. Both objectives are easy to reach in this game (depending, of course, on which scenario level you choose).

The designer, Ray Tobey, is only 19 years old, and this effort shows advanced and innovative graphics. We will be looking forward to more exciting work from this creative young man.

— Don Hamilton

Conan

Published by: Datasoft
Programmed by: Eric Robinson and Eric Parker
For: Apple II, Apple II+, Apple IIe (disk or tape)

Conan is a one-player, arcade adventure game, playable by using keyboard or joystick. The controls can be frustrating using the keyboard; however, it is the perfect game using a joystick. The graphics in *Conan* are outstanding. Each level of game play has a totally different setup and could be considered a game in itself!

There is no documentation given or accessible within the program. There is documentation in the game box, but you would only need it if you were not using a joystick. Aside from which keys to operate, the game is pretty self-explanatory.

When playing *Conan*, you start off by entering a castle. You work Conan through the castle to other difficult situations including a volcano, a treehouse, a lava pit, and a giant waterfall, while battling various creatures along the way. To win the game, you must battle and destroy the arch villain, Volta, but you must go through many different levels to get to him.

Conan has a more realistic touch to it, compared, for example, to a game with cartoon breaks between sets. When you are moving Conan around, the graphics screen does not scroll. The screen moves from page to page but does not in any way hinder game play. *Conan* is a continuous, action-packed game that has only short disk drive pauses between screens.

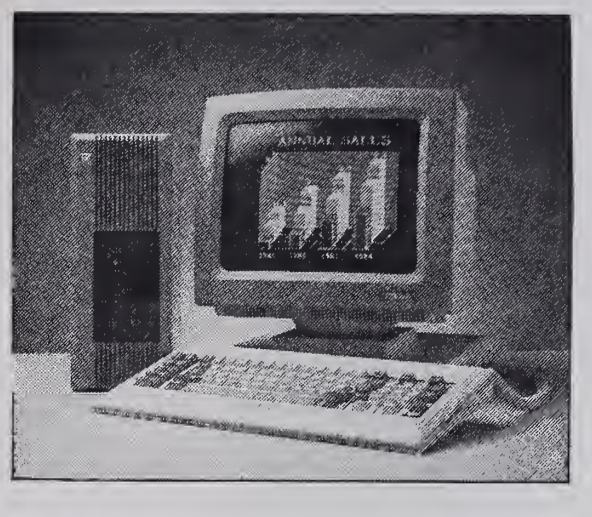
Conan is an excellent game for any age adventure or arcade lover. It provides both a novice or an expert player with many hours of fun and challenge. Because of the many different levels, the game will maintain your interest, and is well worth the money!

— Adam Purkiss

BEST PRICES ON
COMPLETE SYSTEMS
PACKAGES AND ACCESSORIES

ITT EXTRA Computer
Buy a complete ITT Computer System at
$1749
and get a $100 gift certificate good towards any other purchase

* Not applicable on sale items



IBM AT ENHANCED
512K Random Access Memory
20 MG Hard Disk
1 Disk Drive
Serial and Parallel Ports
As Low As **$4895**
ALL OTHER MODELS AVAILABLE
$CALL

LEADING EDGE COMPUTER
Complete Systems Starting at
$1699

Call For All Other Turn Key Systems.

SPECIALS OF THE MONTH . . .

10MG. Internal Hard Disk Sub Systems	**$499**
10MG. External Hard Disk Sub Systems	**$699**
20MG. External Hard Disk	**$995**
30MG. Ultra Fast External Hard Disk	**$1685**
10MG. Streaming Tape Back Up System Including Power Supply	**$599**
Mannsemann Tally 3 Pen Plotter	**$399**

Call For All Other Sub Systems

COMPAQ DESKPRO
Model 1: 128K Random Access Memory
One Disk Drive
Six Open Expansion Slots
As Low As **$1695.00**
All Other Models Available **$CALL**

LA'S ONLY COMPUTER STORE SPECIALIZING IN
Hardware & Software For Professional Musicians and Composers
Now Available: Octave Plateau Midi Sequencer Plus for IBM/PC •
Jim Miller's Personal Composer • Roland Midi Interfaces
We Carry A Full Range of Software For Apple and IBM Computers
Experts in Networking, Multiuser Systems, Accounting and CAD/CAM Systems

BROKERS The Computer People
VERTICAL MARKET HARDWARE & SOFTWARE

(818) 342-8703 (714) 498-5140 eves.

18639½ Ventura Bl., Tarzana, CA 91356
Convenient Boulevard location Across from Mann's Theater

Trade-ins Welcome | Cash Prices Only | Limited To Stock On Hand | Leasing Available

AUTHORIZED LEADING EDGE & ITT COMPUTERS DEALER

Rails West!

Designed by: Martin C. Campion
Published by: Strategic Simulations, Inc.
For: Apple II, II+, IIe, IIc, Atari
List Price: $39.95

It's the late nineteenth century. You sit in your elaborate high-back leather chair with a cigar in one hand and a shot of rotgut in the other. Your feet are propped on top of your hard oak desk with your pant legs tucked in your boots. You execute your final decision—"Sell all stock in the C & NW and finish building the SO PAC!" thus ruining your strongest competitor, connecting Los Angeles with El Paso to complete the first transcontinental railroad from New Orleans to Portland, and becoming the most powerful railroad baron in history. You have just played *Rails West!*, a railroad financing simulation game of one of America's most exciting eras.

There are three scenarios and four levels of difficulty. The short scenarios include the periods of 1890-1895 and 1890-1900 and are estimated to be 3-4 hours in game length. The long scenario covers the period of 1870-1900 and is estimated to run 8-25 hours. The scenarios require 6, 11, and 31 turns of play respectively. One to eight people can play the game, with as many as four of the players being computer generated. Whether you play the short or long scenarios, the number of players, the length of time each player takes per turn, and how well the players manage their finances will determine the true length of the game. Many will last less than one hour if you mismanage your finances. If you find yourself in a lengthy game and need to break away for awhile, you can save a game in progress.

Except for the unusually gifted, the game is not intended for youngsters. You will be buying and selling bonds, stocks, and securities, floating securities, applying for and repaying loans, and engaging in other financial activities. Those who lack knowledge of big business finance, but have the intelligence to learn, will find *Rails West!* an excellent educational tool in finance as well as railroad history.

The object of the game is to control a profitable transcontinental railroad running from at least one eastern terminal to at least one western terminal, while accumulating as much cash, stocks, and bonds as possible. The game is played through the use of menu and sub-menu selections with minimal text input. Many of the menu selections are user aids to view the status of various railroad lines, companies, and barons. Others are action menus where activities for loans, stocks, bonds, securities, building and/or controlling railroads, and improving rail efficiency can be accessed.

A high resolution graphic display of a game map is also available for viewing during any turn and is displayed at the end of each turn to show rail lines in the process of construction. There are 33 cities on the map, with 68 possible rail line connections. Potential rail lines are displayed in white, while active rail lines are displayed in one of three colors to show which of three efficiency levels (low, medium, or high) applies to a particular railroad. Since a single railroad may be represented by any one of four colors, a color display is recommended, but not essential. For this review I played *Rails West!* on an Apple IIc with a monochrome monitor.

There are two options for the initial setup of each game. The "Historical" setup is the same for each game and represents actual conditions in the first year of the scenario you are playing. The "Random" setup provides random initial conditions and changes from game to game. To further stimulate your interest in the game, the economic condition of the nation may change from year to year, so you will experience booms and depressions.

At the end of each turn, the results of the actions you and the other players made are analyzed and displayed on the screen. A nice feature of the game is that you have the option of getting a hard copy printout of the results to help you on your next turn.

The documentation for the game explicitly describes all of the features of the game, the object of the game, and winning strategies. It contains a set of short rules, for those anxious to start play right away, and a set of complete rules and instructions for the more advanced speculator. A color coded map of starting railroads in 1890 is also provided for reference, as well as a pad of game maps for keeping track of your activites. Each sheet of the pad has a map on one side showing the 68 potential rail line connections; you can use colored felt tip pens to keep tabs on your railroads. The other side of the sheet can be used to tabulate your financial assets and debts.

Rails West! is a strategy and speculation game, entertaining, educational, mentally stimulating, and well designed. Accept the challenge, and you will have hours of excitement well worth the investment.

— Bruce F. Cannelongo

Clear For Action

Published by: Avalon Hill
For: Atari Home Computers, 48K
TRS Models I/II/4. 48K

Clear For Action is Avalon Hill's conflict naval simulation. Graphically, the game is fair, having an easy-to-understand screen display which enhances playability; however, it lacks the pizazz of some of its contemporaries. The game starts by displaying a menu which allows you to pick one of the many preset scenarios or create your own. You may play a solitary version, pitting your wits against the computer, or opt for the multi-player version which allows up to eight players. Statistics and player aids are included to allow you to "build" your own designs or recreate one of the actual ships of the era. Stats are even available relating to crew quality and moral value of different countries.

Once the battle is set, the ships are represented on a movement grid made up of white dots on a light blue background. The players are allowed to set sail and enter helm orders for each ship, then the computer plots all movement simultaneously. New positions for each ship are then displayed and play shifts to the combat sequence. Each commander decides how and at what his ship(s) will fire, and a side display of the ship's deck appears as the guns fire. As a ship suffers casualties, fewer guns run out. Each captain then reloads his guns, deciding the type of shot he wishes to use. Certain types of ammunition take longer to load. After hits and casualties are tabulated (all based on percentages) a stat board appears for each ship which allows players to make any crew adjustments. Play continues until all ships on one side strike their colors or are destroyed.

There is also a boarding sequence in which ships of opposing sides which grapple or foul one another during movement may attempt to take control of each other.

I found the actual movement and the computer's firing determination somewhat ambiguous at times. For example, two ships are moving in the same direction at the same speed and, for some reason, one moves farther. Another example depicts two ships facing one another at the same angle; one may fire while the other cannot. I believe these ambiguities are caused by inefficiencies in the actual screen display and that the program is correctly computing figures upon which the positioning is based; however, it can be disheartening at times.

Overall, the game provided me and my friends with many hours of enjoyment. I did find that the interaction between human players in a multi-ship duel was a great deal more fun than just coldly battling the computer.

— Kim Nelson

Market Forces

Designed by: Ned Horn
Published by: Avalon Hill
For: Atari and Commodore computer, Minimum memory: 64KB

This game is supposed to simulate Supply and Demand factors at work in the Commodities market. Unfortunately, it is an oversimplified device which gives the player no clue to the actual workings of commodities training, and very little, if any, insight into the economic theory of supply and demand. Furthermore, the bad news does not stop there. Graphically, the game is a throw-back to the days of the 4KB Atari 2600. Even on the usually good resolution of my Atari 800, I found the limited graphic characters hard to read. It is fortunate that the game only lasted about thirty minutes on an

average; any more and I would have had an extreme case of eye-strain. The game does have options for 1 to 9 players, with the computer taking up the slack for the lacking humans.

Game play is somewhat simple; however, the poorly written rules make it a real challenge the first time you play to see what's going on. Basically, the game lasts six years. Each player starts with a certain amount of money with which he must invest in any of five "commodities." A player does this by using a joystick to move the cursor over a grid with ten rows of numbers from 0 to 9. Every two rows are attached to a certain commodity. The first row represents the price at which you wish to purchase it and the second indicates the number of units you wish to buy at that price. You may only set one buy price and one number of units per commodity per year. After you have completed your "buying," the computer then adds up all units sought by all players against available units and divides them out. Unfortunately, you don't see any of this, so it's hard to tell what's happening. At year end, you set a price for everything you own and attempt to sell it. Any units you have left over you lose. Play then continues for the succeeding five years. The winner is (no surprise here either!) the person with the most money at the end of the game.

In conclusion, all I can say is that Avalon Hill, a producer of high quality games, has unleashed a real turkey on us this time, so stay away from this one.

— Bill Harrison

INFORMATION

Is The Name Of The Game

And that's what you'll get in the new statewide edition of Scott's Computer Resource Guide, now published by MicroTimes

A Complete Directory for Service and Information

Service for your Computer
Consultants
Advice on Software
Computer Shows
Custom Software
Distributors
Retail Sales
and more

Readers: Look for your copy of Scott's Computer Resource Guide at Bookstores, computer stores, and newsstands this summer.

Advertisers: **FREE LISTINGS** are available in Scott's Computer Resource Guide for all businesses in the computer industry. Select your category, then give us your name, address and phone and send it to Resource Guide, 5951 Canning St., Oakland CA 94609. For customized extended listings or display advertising, in S.F. call Chuck Stanley at (415) 652-3810 or in L.A. call Jeff Rosenfield at (213) 467-7878

FREE LISTINGS

Yes! I want a FREE listing in Scott's Resource Guide for 1985!

Category (select one on right)_____
If you want to be listed in additional categories, circle the proper ones and send $10 per extra category.

Company _____

Name _____

Address _____

City/State/Zip _____

Phone (___)_____ Operating Hours _____

Scott's Computer Resource Guide, California Edition
The Information Source for *Your* Information System
Send this coupon to: Resource Guide, 5951 Canning St., Oakland, CA 94609

ACCESSORIES
APPLICATION PROGRAMMING
ASSOCIATIONS
BOOKSTORE
BUSINESS APPLICATIONS
BUSINESS ENTERTAINMENT
BUSINESS SEMINARS
COMMUNICATIONS
COMPUTER FURNITURE
COMPUTER SERVICES
COMPUTER SHOWS
CONSULTANTS
DATA COMMUNICATIONS
DATA PROCESSING
DATA PROCESSING EQUIPMENT
DATA PROCESSING SERVICES
DEALER
DEVELOPERS
DISCOUNT
DISTRIBUTOR
DOCUMENTATION
ENGRAVING
GRAPHIC SERVICES
HARDWARE
HOT LINE SERVICE
INSTALLATION
INSURANCE
MANAGEMENT CONSULTANT
HEALTH
MANUFACTURER
MANUFACTURERS REPRESENTATIVE
MARKETING CENTER
MUSIC
OFFICE AUTOMATION
ON-LINE SERVICE
PERSONNEL SERVICES
POWER CONDITIONERS
PROFESSIONAL SERVICES
PROGRAM DEVELOPMENT
PROGRAMMING
PROMOTION
PUBLICATION
PUBLISHER
PUBLISHING
RENTAL
RETAIL
RETAIL STORE
SAFETY EQUIPMENT
SERVICE BUREAU
SOFTWARE
SOFTWARE ASSEMBLY
SOFTWARE DESIGN
SOFTWARE DEVELOPMENT
SOFTWARE PACKAGING
SUPPLIES
SYSTEMS ANALYSIS
SYSTEMS DESIGN
SYSTEMS HOUSE
TECHNICAL WRITER
TIMESHARE
TRAINING
TYPESETTING
USED EQUIPMENT
VERTICAL MARKET
VIDEO
WORD PROCESSING SERVICES

CLASSIFIEDS

HARDWARE FOR SALE

IBM-PC COMPATIBLE
Chameleon Plus, 256K, 2 drives, monitor, ports, printer, cable and lots of software. Best offer. Call Greg (415) 525-1328.

42MB IBM-PC HARD DISK
External unit 100% IBM PC/XT compatible, autoboot from DOS 2.013.0, complete with hard-disk, controller, IBM PC type case, power supply & cables. $1800. (408) 245-9381 evenings.

USED IBM SYSTEM
256K+, full system configured as you want it. $1650+ depending on configuration. R. Crandall, (415) 435-4461.

APPLE III SYSTEM
256K, 2 disk drives, monitor III, cables, manuals, excellent condition. Call Dave (415) 366-0510 evenings.

AMERICAN PC-XT
100% IBM compatible w/2 360K disk drs., color board-mono. monitor, printer pt. 256K, eight slots — 130 watt power supply. Retail $3000, now only $1495. Call or write Alphabet Hardware, 4230-20 Atlantic, Long Beach, CA 90807. (213) 427-1181.

MORROW MD3 WITH SOFTWARE
Microdecision 3 complete system with terminal and Silver Reed 550 printer. Complete software including wp, spreadsheet, db, accounting etc. with manuals. $1800 or b/o. Call Yogi (213) 402-3220.

ENHANCED IBM PCjr
128K, DOS, internal modem, joysticks, parallel port, Lotus 123, cartridge BASIC, color monitor. All for $1000. Call (213) 597-7935.

OSBORNE DOUBLE DENSITY
Conversion includes media conversion for 12 formats. Original cost $400, now just $120. Rocco Santori, San Francisco. (415) 751-4728.

EAGLE III AND/OR EAGLE IV
CP/M-80, 2 DSDD w/750kb capacity each on E3 (E4 has 10 mb Hard Disk). Software includes: wp, ss and CBASIC. (408) 226-2367.

IBM PC/XT AND APPLE II+/IIe
Incredibly low priced and well made interface cards and accessories. For FREE detail info and price list send SASE to Trade Matrix, P.O. Box 51639, San Jose, CA 95959-5639.

COMPAQ DESKPRO MODEL 4
640K RAM, 10MB hard disk, one floppy tape drive back-up 8086 processor, Lotus, Multimate, PFS File included. Some games, misc. software. $5000 or best offer. (415) 346-6321 anytime.

OSBORNE 1, MODEM, $560
SS/SD blue case, Osborne 300 baud modem (mounted in spare disk slot), extra commercial software not on bulletin boards. Call John in SF (415) 585-7428 evenings and weekends.

ORCHID PCTURBO 186 BOARD
This board will double or triple the speed of your PC or XT. Easy to install. Has 256K onboard. Includes software. $700 ($1095 new). Call (213) 473-0171.

COMMODORE 64 COMPLETE:
Disk drive, printer, modem, 80 col., monitor, koala pad, software, books, joystick. (415) 285-5321. $600.

DISK STORAGE CASES
Strong, thermomolded 5¼" disk storage or transporting cases. Foam lined, adjustable dividers, lock, carrying handle. SASE to: Bergeron Enterprises, 443 Roberta, Fullerton, CA 92532.

ROLLING YOUR OWN?
2 cartons misc. components, PCBs, & assemblies — $50 takes it all. IC's, incl. S10, ROMs, Clock-cal, discrete components, CMOS MSI, BRDBoard, etc. Call (415) 854-4337 and leave msg.

DIABLO 630
Letter quality printers, like new, perfect condition, w/warranty, from $875. Specialists in Diablo printers. Expansion Products Service Company, Box 4217, Mountain View, CA 94040. (415) 965-7222.

COMMODORE 8096 COMPUTER
CBM 8096 business computer with 4040 dual disk drives, Diablo 630 letter quality printer, Visicalc, Database, Wordpro and WordCraft s/w and manuals. $1800. Call (408) 371-9150 evenings.

APPLE IIe SYSTEM
Monitor, drive, 80 col. card, 77 disks full of software: Appleworks, Print Shop, Logo, lots of games, educational, and business programs. $975/b.o. (415) 632-8013 eves./weekends.

APPLE STEREO ADAPTER
The Stereotype II connects your Apple II to your stereo for amplified sound on all programs. Great for gamers. Easy hook-up. Reg. $30, now just $15. D. Lula, P.O. Box 33633, Granada Hills, CA 91344.

FREE PCB SAMPLE
Multilayer and double-sided PCB for 40-70% less. Get your FREE estimate and sample from GENERAL COMPUTER PRODUCTS CORP., P.O. Box 604, Milpitas, CA 95035. (408) 262-8640.

20 MB BERNOULLI BOX $2595
The most reliable hard disk system for IBM and compatibles ON SALE NOW. Comes complete with two 10 mg. cartridges. Hurry! CALL NOW! exp. 6/15. Unili Productions, (415) 427-5298.

APPLE MONITOR II
(From Apple IIe) Original box and manual. Great used buy! $110 or b/o. Call Blake at (408) 292-7710 until 10 pm.

COMPUTER EQUIPMENT HOT-LINE
Nationwide, on-line 24 hours classified. Voice (415) 454-2445. Modem (415) 454-4151.

ATARI 800 COMPLETE SYSTEM
CPU, modem, drive, interface, joysticks, paddles, books, magazines, and software to boggle the mind — over 200 titles! $900/b.o. takes it all — leave message (415) 521-9979.

CODATA 68000 UNIX-MULTI-U
750K mem., 33 MB disk, 1 MB flop F77 TI 810, adds GRT TEK-4010 storage 7" crt. $13500/offer after 7 p.m. (415) 564-4978; 665-6523.

DATAPOINT 1500 COMPUTER
With 2-8" disk drives, no raster, as is, with some 8" floppy disks. First $500 takes it. Al (408) 227-7090. Leave message on answer machine if not home, will consider trades, modem.

4 PEN PLOTTER — $495+ TAX
HP-GL compatible. Handles B size. Small (19" × 9" × 5") and light (13 lbs.). Plots @ 8 ips w/.004" resolution. Variety of pen types. For more info call Steve Heffelfinger (415) 969-1422.

VIC 20
In excellent condition with cover, Commodore Finance I & II, Typing Tutor, Word Processor, Clock, + HES Synthesound programs $115/offer. Michael (415) 591-5668.

IBM PC EXPANSION CARDS
AST-6PK compatible with 64K for $185; Hercules mono graphic compatible card for $189 brand new including warranty and manual. Limited quantity. Call (408) 985-2188.

TALLY SPIRIT PRINTER
80 cps, used one month. With box and instructions. $175 obo. Call Dean (213) 820-3318.

IBM PC FLOPPY DISK DRIVE
Double-sided, double-density. Comes with 30-day money back guarantee. Plus assistance with installation. All for $100. Call Bob at (408) 738-4764.

Categories: (check one)

☐ Hardware For Sale ☐ Software For Sale ☐ Wanted ☐ Personal ☐ Services
☐ Will Trade ☐ Equipment ☐ Video

Large Headline:

Cost of ad FREE!! X number of issues to run 1 = Amount Enclosed 0

Send check, money order, Visa or MasterCard

☐ Visa
☐ MC

Card # _____ FREE!!
Exp. Date _____
Signature _____

Advertiser's Name _____
Street Address _____
City _____ State _____ Zip _____
Phone (_____) _____

Send to: **MicroTimes Classifieds**
1800 N. Highland Ave. #220, Hollywood CA 90028 or 5951 Canning St., Oakland CA 94609

DEANZA COLLEGE

COMPUTER MARKET

May 18th
9am - 3pm

Free Admission to Shoppers
New and Used Computers,
Software and Accessories
ON SALE

Reserve selling booth at (408) 996-4756
or drop by the Activities Office at DeAnza College
21250 Stevens Creek Blvd., Cupertino, CA 95014

DEANZA DESIGN & PUBLICITY

RESERVED

Electrify the night

With the Wonders of Digital Music

PHOTO: SCOTT GLOBUS MODEL: BILL SALTZ

Create your own system
for as low as
$91.00* per month

Call now to
reserve your space
at our next hands-on
demonstration

*Price reflects 36 monthly installments which include: 10% down payment, sales tax and finance charge at 17.92% APR

MICHAEL A. SCOTT
INCORPORATED

466 Crescent, Penthouse One • Oakland, CA 94610 • 415 444 1888

CLASSIFIEDS

HARDWARE FOR SALE

APPLE IIc PRINTER — MONITOR
New IIc monitor and stand and scribe printer with 5 ribbon cartridges. Both still on warranty and new. $75.00 for monitor & stand. $150.00 for printer and ribbons. Rich (415) 595-5872.

TM MICRO SPECIAL OFFER
100% IBM compatible micros, hi-perf. Full product line of desktops and portables, customized designs available. Contact manufacturer directly. Call Clinton Damaron (408) 972-8368.

APPLE III 256K
2 disk drive, green monitor, silent type printer, Visicalc, Quick File, Business Graphics, Apple Writer, Apple Speller, all software is new. $1500 cash/offer (408) 287-5153.

OSBORNE EXECUTIVE
128K, 80 column, software included. Wordstar, Supercalc, Personal Pearl, DBase, TurboPascal, Turbo Tutor, Toolbox. Only 4 months old. Asking $875. Call (415) 821-4385 after 5 pm.

APPLE III+ 256K
Apple III, monitor, Imagewriter, Visicalc, Applewriter, Quickfile, II Emulator, demo disks, manuals, cables, less than 30 hours used. Take all for $2000.00 obo. (714) 898-1294.

DEC RAINBOW
Forced sale: hardly used. Swell machine. Call Peter at (415) 824-9247.

APPLE IIe 64K MOVING SALE
Monitor II, disk drive II, Epson RX-80 printer, Printmax card and cable, vanier paper 9 x 11. Software Accountant and Speller, Sierra Homeword. Only $2200, all new. Call (415) 334-4089.

WORKSLATE BATTERY PACKS
Rechargeable nicad for Workslate & printer. Call Pete, M-F, (408) 742-9397.

TRS-80 MODEL 4
2-5¼" SS/DD drives. CP/M compatible advanced DOS 6.2, 64K, 12" CRT, Visicalc, Superscripsit, Dictionary/Electric Pencil (WP), and many extras, very new, under warranty. $1400. Ray (415) 584-2807.

BYTE-BACK MODEM FOR TIMEX
TS-1000 of TS-1500. Excellent cond. with improved MODEM software. $109 or offer. SASE for info to C. Chao, 73 Sullivan Dr., Moraga, CA 94456.

TI 820KSR TERMINAL
150 cps dot matrix terminal with EIA RS-232 interface, programmable form length and compressed print options including numeric key pad. $2235 cost. Make offer. Ray (415) 433-0150.

HP-110 LAPTOP PORTABLE
576KB memory with built-in Lotus, Memomaker and Calendar software. Battery operation for 16 hours between charges. Like new! Asking $1495. (714) 650-3940 days, ask for Pat.

APPLE MODEM FOR SALE
Networker modem for sale with netmaster software. Made by Zoom Electronics, sell for $100 or best offer. (415) 388-0384. (300 baud).

"PC" BEST BUYS — WILL SHIP
Leading Edge $1290; Sanyo color port. $1775; Sanyo 555 $725; Hi-Res RGB $349; Gavilans $600. Several add-ons: Boards, monitors, printers, etc. Hard Disk $550 complete (SA 612). (415) 941-2796 (pm).

COMMODORE 64 SYSTEM
Like new computer with disk drive, clr. monitor, mps printer, modem, Multiplan, and many games. First $1000 takes all. John, (415) 435-0517.

COMPAQ DESKPRO
Compaq deskpro with 640K, monitor, two floppy drives, hard disk drive, 10 meg., MS DOS 2.1, software. Call (213) 851-1891. $2995.00.

TAPE DRIVE SALE
Archive 8 inch tape drive. Never used. 15 in stock. Low price $300. Ask for Kim (408) 263-9510 business hours.

SOFTWARE FOR SALE

APPLE IIe, IIc — FUNUMBERS!
Superb system for 3-5 year olds in learning number recognition, counting, and addition. Color hi-res graphics, animation + M/L sound. Send $18 chk/m.o.: N. Hatfield, 662 S. Lake, Pasadena, CA 91106.

TRS-80 SOFTWARE
Model 1 and Model 4 disk and cassette, home and personal programs. Free info. Simplified Software, 1537A Fourth St., #83, San Rafael, CA 94901.

ELECTRONIC TIMESHEET BILLER
New package 17 functions 15 reports. Price $395. Inquire at the address: Greenpoint, P.O. Box 210487, San Francisco, CA 94121 or (415) 387-6472.

SUPERCALC 2, WORDMARC: (IBM)
SuperCalc + + + and an "extraordinary (business) word processor" (PC World). Both NEW w/doc. SuperCalc 2: $300 value, $165. WordMARC: $500 value, $295. Both for $450. (213) 824-7511.

DOMINOES WITH RODNEY
The first dominoes software. Apple II family disk. Sold by author. Educational. Artificial intelligence. Send $18 to: Dominoes, 5619 Picardy, Oakland, CA 94605. (415) 261-2352.

APPLE III SOFTWARE FOR SALE
VisiSchedule, Adv. Visicalc, Word Juggler, Versaform, AIII Maillist Mgr., AIII Biz Basic, Pascal, AIII Sys software, Catalyst III, Lexicheck, and more. $100 takes it all. (415) 921-7329 (H), (415) 375-2436, Tim Kyger.

SUPERCALC 2 + DBASE II.3
Osborne 1 software. Asking $75 for SC2, $125 for DBII, or best offer. Need to sell now! Jim at (408) 373-3566/(408) 394-6958.

SUPER SOFTWARE SALE
10-80% off on all software for Apple, Atari, Commodore, IBM PC. Write for free catalog: Entertainment Network, 3550 Cattail Ct., Union City, CA 94587. 24 hrs. BBS line: (415) 471-3591.

THE MARKET PAC — $99.95
An invaluable tool for the private investor. Trend analysis, bond calculations, commissions, leverage and much more! Runs on IBM, TRS-80, Apple. Sterling, 106 Cuesta Real, La Honda, CA 94020.

WORDSTAR NEEDS PRINTSTAR!
Install 192 typefonts, 8 languages, math symbols, vertical printing and the ability to create your own font styles. For FX 80/100 and IBM PC 128K, Memory Chips, (415) 456-4211. $49.95.

DISCOUNT SOFTWARE
Accounting — open systems — MBSI — BPI — Great Plains — IUS — Many others — On-site support, consulting and programming. (Los Angeles) (213) 827-4992.

APPLE VEHICLE MAINTENANCE
Keep track of scheduled maintenance with this handy package. Formatted reports, 10 vehicles/disk. $29.95. 49er Software Development Co., 4910 Cabin Trail, Placerville, CA 95667.

LAS VEGAS VIDEO CRAPS!
Intimidated or confused by the fast action at the casinos' craps tables? With HIGHROLLER you learn how to bet and play at home before you lose your shirt. Handles all major craps bets, randomly generates dice rolls, automatically settles bets, detailed financial summary, menu-driven with on-line help, color animation and sound. For IBM-PCs or clones w/128K & color monitor. $19.95 + $2.00 postage + 6% CA tax. AOKI Software Technology, P.O. Box 21366, San Jose, CA 95951-1366. Dealer inquiries welcome.

TI99/4A UCSD PASCAL
Complete system. "P" code card, editor, filer, utilities, compiler, assembler, and linker. All documentation. Sell for $390 or trade for monitor, disk drives, etc. Call George (707) 874-3231.

NORTHSTAR CP/M AND BUS.
Plus much more. None over $50.00. 8" CP/M Apple Atari. Send SASE: Box 351, Moraga, Ca 94556 for list or call (415) 376-6589.

MACINTOSH PUBLIC DOMAIN
Complete line of over 25 titles of Macintosh public domain software. $8.00 my disk, $6.00 your disk. Quantity discount for complete library. Call Cole @ (213) 382-1420 evenings.

FREE IBM PC SOFTWARE!
We've selected the best public domain software to give away with MCS Disks (tm). Software directory is $1.00. Send to MCS Systems, 6415 Shelterwood Drive, Oakland, CA 94611.

IBM PC MATH SOFTWARE
Math Pak will do determinants, line eq., conversions, trig., area calcu., & many other essential math uses. Send check or m.o. $15, Dalal Programming, P.O. Box 1303, Cupertino, CA 95015-1303.

BECOME YOUR CHILD'S TUTOR
Create multiple choice test. Give tests, save scores, retest. Printer options. Free info. Sunset Designs, 1815 18th Ave., San Francisco, CA 94122.

SOFTWARE FOR APPLE AND IBM!
Pick from nine disks loaded with programs. Business, games, utility & more. Just $6 per disk. Send for a free catalog: Budget Software, P.O. Box 7791, San Jose, CA 95150.

CUSTOM GRAPHICS PACKAGE
Hi-res 2 screen, 16 colors for C-64. Fastplot lines, boxes, circles, fill, text and shading. Create, edit, store and retrieve pictures wi. text and graphics. $19.95 spec. T/D. CVS, (415) 494-6165.

IBM-PC BBS & 200 PROGRAMS
You get ten disks: spreadsheets, database, mgrs., games, graphics, utilities, and a BBS program! To order send $69.96, CA add tax, COD add $3. DDS, Box 12100, Santa Ana, CA 92712.

ADAM OWNERS
We have the software and hardware you need for Adam at low, low prices. And the selection cannot be beat. Free catalog and user group info. Jono Smith, 16431 Beach St., San Francisco, CA 94123.

SERVICES

FRENCH COMPUTING AND WP
Computer-oriented translations and word processing services. IBM PC, Samna Word, Wordstar equipment. 7 days/week, reliable, accurate, fast. Josie Dethiers (415) 362-1462.

BUSINESS SYSTEM WIZARDS
Apple, IBM, CP/M Systems Consulting by experienced, inexpensive college students. We speak English!!! $12.00-$20.00 per hour. (415) 848-1846 Aquisite Associates.

OFFICE AUTOMATION
Wang and IBM-PC computer/word processing training at your location or ours. Call about other support services. We are the experts in OA! The Word Pros, Palo Alto (415) 323-3555.

BBS TELEPHONE LISTINGS
Public domain BBS numbers for all types of computers. Send SASE and 75 cents to cover costs to: Lightning Technologies, 375 S. 9th St., #914B, San Jose, CA 95112.

FIRST-TIME USERS
Assistance provided in evaluating needs of small businesses re use of computer systems. Training of users also available for newly-acquired hardware and software. Elish Computer Assoc., 1442A Walnut St. #52, Berkeley, CA 94709. (415) 644-3763.

OPEN ACCESS APPLICATIONS
Experienced business user will help you develop and use applications: Business plan spreadsheets, databases for marketing, mailings, etc. Free consultation (415) 397-4827.

IBM PC/XT USERS SEMINAR
Set up and run your mailing list in 3 hours. Includes software, labels, file cards, self-mailers, loose leaf add-forms. May 15, 7-10 pm, Walnut Creek. Call (415) 945-0407 for information .

COMPUTERS FOR SMALL BUSINESSES
We rent micros and provide software to suit your business needs. We also do custom-programming. Free consultation. Discount for non-profit organizations. Henry (408) 293-4760.

COMPUTER SYSTEM CABINETRY
Custom cabinetry to fit your system, office or commercial. Anti static, w/built-in dust, media storage, and sound enclosures. Free design service. Call P.D.I. (714) 529-0933 now.

COMPUTER TRAINING
Classes for Apple and IBM PC & PCjr computer users. We cover various software packages in addition to intro. and youth classes. H&G Micro-computer Crafts, Inc. (415) 489-1157.

MICRO-DOC REPAIRS
Complete microsystem repairs: computers, terminals, disk drives and printers. Service contracts and consulting. Micro-Doc, 6730 White Oak Ave., Van Nuys, CA 91406. (818) 881-2815.

KABLES BY KGB ENTERPRISES
We carry a complete line of standard computer interface cables. Custom cable applications and fast service is our specialty. Call or write for info at (408) 292-0657 or KGB Enterprises, P.O. Box 549, San Jose, CA 95106-0549.

CONSULTING AND TUTORING
All phases of programming and design of micro application software. Specialize in IBM PC, assembly, C, Basic, etc. Ask for Eddie, (408) 973-0561.

CLASSIFIEDS

SERVICES

DEVELOPER/CONSULTANT
Micro computer specialist for business or education. Programming, system design; training. References available. Clyde Jones, call after 5 pm, (415) 261-2352.

INSTALLATION AND TRAINING
We provide help with accounting systems on your IBM PC XT/AT. We are better because we are backed by a CPA firm. Imple-systems, Orange, CA (714) 937-1081. Mike or Bob.

CONSULTING AND TRAINING
Framework, Lotus 123, Wordstar, DBase III, Samna, MS DOS and other software, Programming of turnkey systems. Consulting on hardware and software. Call (213) 851-1891.

TRAINING AND CONSULTING
Training available for: Lotus, Symphony, Displaywrite II, Wordstar, intro to computers. Help available to people "just getting started." (213) 374-3237.

HELP! — CONSULTANT
Get all the help you need and earn more profits. Need software, custom programs, training, installation etc. for your business data system? Call Don Reinken (213) 665-3533 now.

CONSULTING AND TRAINING
Complete business services. Training in: DBase III & II, Lotus, Wordstar, Introduction to PC's. Your site or ours. Computergap, 557 A Pilgrim Drive, Foster City, CA 94404. (415) 345-4801.

PROMOTIONAL TEXTS
Your marketing and publicity material can be written or polished at moderate cost by former *Personal Computing* and Atari writer. Call Ken at (415) 381-4225 in Mill Valley.

COMPUTER SERVICES
Mailing lists, database management, text processing, documentation, manuscripts, editing, telecommunication services. Professional quality at reasonable rates. Home-Craft Computer Services, 227-8th Avenue, San Francisco, CA 94118. (415) 387-9993.

ACCOUNTING SUPPORT
Will assist in implementing comp. software into your acct. system. Convert your manual system with a minimum of headaches. References. Lynne Stephens (415) 526-1164.

MCDANIEL ASSOCIATES
Documentation and user manuals by professional educators. Software design consultation. We coordinate user interface and manual for maximum user acceptance, eliminating costly callbacks. Brochures, ad copy, editing and rewriting. 913 Via Casitas, Greenbrae, CA 94904. (415) 461-2815.

LONG BEACH CONSULTANT
Uneasy about a present or future computer? Get experience working for you. Small and tiny business a specialty. First consultation is free. Call Louis — (213) 426-4117.

COMPUTER CONSULTANTS
We install, recommend and train on office automation, wordprocessing, computers and software systems. Professionals with 15 years experience. Call PM & F (415) 482-0484.

PC BUSINESS CONSULTANTS
Improve your operations by using our micro services. Make an appointment to discuss your application needs today! (213) 372-1373. (Torrance).

DIABLO PRINTER SERVICE
Specializing in Diablo printers, repairs, conversions, service contract. Certified Diablo service center. Expansion Products Service Company, Box 4217, Mountain View, CA 94040. (415) 965-7222.

A MANUAL FOR YOUR PRODUCT
Software and hardware expertise. The highest quality service as well as quick turnaround time. WORDLAB, (408) 730-2641.

Diablo
PRINTER SPECIALISTS
Certified Diablo Service Center
• Repairs • Contracts
• Re-certified printers at low prices
Expansion Products Service Co.
Box 4217, Mt. View, CA 94040, (415) 965-7222

SOLVE YOUR MANUAL PROBLEM
The Magic Word can create the manual for your computer system. We specialize in technical writing for micros. The Magic Word, 5689 Keith Ave., Oakland, CA 94618. (415) 654-0842.

DIABLO EQUIPMENT SUPPORT
Complete product line serviced. All disk drives (M/30, 40, 44B) & new and old printers (M/1200, 1300, 1600). We are an authorized PRIDE dealer for new DIABLO products. (415) 462-2114. Communications Maintenance Inc., Pleasanton.

BLISS CONSULTING
Help at reasonable prices — office setup, computer shopping, advertising design, personnel training. A personalized service. Call Jane at (714) 544-4104 evenings.

WANTED

CHURCH SEEKS DONATIONS
Your used Apple cost more than you can sell it for — donate to the Church of St. Thomas — for Christian ministry. Rt. Rev. Jim Dennis, 578 Green #5, San Bruno, CA 94102. (415) 952-9309.

SMALL GROUP OF SCIENTISTS
and programmers has developed the scientific work station for micro and minicomputers. They invite a manager-investor to join the group efforts. A. Tsukerman, (415) 376-3164.

COMPUTER DONATION WANTED
Non-profit community organization needs computer to manage office. Tax deductible. We offer ESL classes. K. Kong, Chinese Progressive Association, 737A Grant Ave., San Francisco, CA 94108, (415) 956-9055.

COMPUTER BOOK AUTHORS WANTED
Write a best-selling Waite Group Computer Book. AI On Macintosh, IBM Topview, Graphics & Sound on Amiga, Macintosh Office, Unix Tricks, etc. Call Mike Van Horn (415) 332-5555.

CREDIT WORTHY COMPANY
Will take over your payments on 10 or 20 MB hard disk systems. Prefer IBM PC, but let's talk. Will pay cash for right deal. Mr. Kahn, (213) 472-5332 days or (213) 827-5596 eves.

COMPUTER SERVICE TECH
Some experience required. Berkeley area, opportunity to rise to management position. (415) 454-2445.

COMPAQ INFORMATION
Would like to buy a used Compaq or hear from Compaq users about best sources. Thanks! Bob Freedman, 686 Cragmont Ave., Berkeley, CA 94708.

COMPUTER DONATION WANTED
Nonprofit charitable counseling service, tax-deductible. Bicultural rel., Asian-American immigration issues. East-West Counseling Center, Oakland and Berkeley, (415) 540-5373.

UNPRECEDENTED OPPORTUNITY
Growing one-stop shopping and information services via home computer offers ultra income opportunity! Great $$$ potential. Free details: DARTON, POB 3176, Redwood City, CA 94064.

EQUIPMENT

YEAR OF THE ROBOT (BOOK)
60 robotic designs, 460 pages, 11½" ×11½", 7 lb., arms, grippers, vision, etc. Only $49.95 + $2.00 shipping and handling. Calif. tax add $3.00. William Olivadoti, 1155A Santa Clara Ave., Alameda, CA 94501.

MANUFACTURER AND SUPPLIER
of various computer accessories and peripherals is looking for distributors. We also wholesale printer cables. Rantronics Int'l. Ltd., 1095 Russell Ave., Los Altos, CA 94022. (415) 968-3605.

ASCII & GPIB CODE CHARTS
Attractive color-coded chart includes binary, hex., & decimal representations. 8½ × 11 $6, 22 × 28 $12.50. Send check or money order to BNW Associates, P.O. Box 7725, San Jose, CA 95150.

SURGE PROTECTORS 6-PLUG
Protect hardware/software against dangerous voltage spikes/surges. Best buy at $29.99. (408) 983-2647.

SAVE SPACE AND BEAUTIFY
Raise your PC/monitor 4.5 inches and place detachable keyboard on roll-out tray footprint 22 × 16. Crafted from real oak. $39.95 plus shipping. Guarantee. Factory direct (818) 709-5076.

WORDSTAR AND UNIX POSTERS
Colorful and attractive command posters! Available for Wordstar, Unix shell, vi, 4.2 BSD. Send $5 each, check or money order, to Typographics, 492 63rd St. #A, Oakland, CA 94609.

NEW TYPE BACK-CHAIR
Wood construction, dark brown covering, as new, call Ed after 6 pm (408) 996-8574.

WILL TRADE

ADVENTURE GAMES COMMODORE 64
To trade for other adventure games (408) 251-1407.

MOTORCYCLE FOR MACINTOSH
Low mileage Suzuki CS-850, Vetter fairing, trunk, etc., shaft drive. Excellent condition. $1395 (will trade up). (714) 671-0605 weekends.

DURANGO F-85 COMPUTER
Complete work station with double disk drives, printer, monitor, keyboard, includes dust cover, paper and printer ribbon cartridge. Will trade for car or truck or ?? (415) 340-8669.

VIDEO

NEED A PRODUCT DEMO TAPE?
I shoot and produce video. Have top equipment. Heavy background in electronics and computers. This helps when doing a tape on high tech. Call Chris Crummett at (415) 921-0572.

PERSONAL

HYPNOTHERAPY (DANTE METHOD)
Overcome your tensions, fears and problems by learning "instant self-hypnotism." Stop smoking — control stress. Call (415) 957-9715 for appt. First visit at half price.

SANYO MBC-555 ALONE IN LA
Novice Sanyo owner learning Wordstar for screenwriting. Feel adrift in a stream of IBMs and Apples. Seek other Sanyo owners to learn with and from. Call Chris (213) 876-4353.

MICROTIMES
Fact: 25% of all computers and computer users are in California
Fact: MicroTimes reaches them!
Over 400,000 people read MicroTimes every month
Think About It
(415) 652-3810 (213) 467-7878

USER GROUP NOTES By Mary Eisenhart

This month's winner of the Bizarre Telephone Conversation Survival Award is indisputably **Linda Kahn** of the **FORTH Interest Group**, who happened to call one morning as I was doing a fairly classic rendition of Out-To-Lunch Editorial Person. "Hi, I'm from the FORTH Interest Group, and I heard you have free user group listings," she said amiably. "Uh, yeah, that's true," I replied cautiously, "but just who's the Fourth Interest Group? I mean, I've heard of the Fifth Estate, the May 1st Coalition, the No On Prop 13 Group, but who are you?" Well, once we got that one straightened out and had a good laugh over the low intelligence manifested by editorial types these days, Linda agreed to send along listings of local groups for FORTH aficionados, which she duly did. You'll find them among the local listings; if there's none in your area, contact the central organization at P.O. Box 8231, San Jose, CA 95155, (408) 962-8653, or Linda herself at (213) 478-7398.

We received a correction from **Ted Shapin** of Orange on our listing for **Computer Professionals for Social Responsibility** in the LA area, which, based on conversations with various other CPSR members, seems to reflect the philosophy of the organization in general. "The LA chapter is interested in computer reliability and preventing nuclear war, the socially useful direction of computer research, and similar topics." If you're looking for a local chapter of CPSR or would like to receive more information about the organization, the national headquarters are in Palo Alto. Write to CPSR, P.O. Box 717, Palo Alto, CA 94301, or call (415) 322-3778 for information. (Ted also sent along a copious listing of user groups in Southern California, which was too gargantuan an undertaking to get into this issue but will be incorporated into the listings next issue. Many thanks.)

A very nice gentleman came by our booth at the Computer Faire and, after some general pleasantries, offered to send us all manner of useful information of interest to user groups. Which he did, but unfortunately he didn't sign his letter, so proper acknowledgement will have to be deferred until he leaves his name. Aside from several listings, he wishes to point out the formation of **PRACSA** (Public Remote Access Computer Standards Association) and its speakers bureau. If your user group is in the Bay Area and would like a speaker on topics ranging from "How To Start A Bulletin Board" to "Small Computers In Business" to "Do I Need A Computer?" to such esoterica as "What Are Z Nodes?," give these people a call at (408) 262-5150. If you're interested in becoming a speaker, call also. And if you're the *owner* of this phone number, please call and give me your name so we can dispense due thanks in print.

Jean Larson of **Bay Area Micro-Genealogists** writes to point out that the organization has affiliated with the **California Genealogical Society** and should henceforth be known as the **CGS Computer Interest Group**. CGS-CIG meets the second Saturday of *alternate* months in the Commission Room, 3rd Floor, San Francisco Public Library, at 3:15 pm. The purpose of the group is mutual aid and education for help in buying and using hardware and software for genealogy. So if you're interested in computer-assisted roots, attend the next meeting on May 11, or contact Jean at (415) 564-6946 (weekends and evenings).

Lion Goodman of Mill Valley reports good progress in forming a group of ***Enable*** users (notwithstanding the efforts of gremlins in the pasteup department who rendered the announcement of the group's formation just about unintelligible in the last issue). To recapitulate slightly, *Enable* is an integrated software package from The Software Group, and Lion's intention is "to create a group which can not only support us as users of the software but can also become a 'lobbying' force so that improvements in the software that we want will be implemented. The company has said that registered users will form such a committee, but I feel that an independent group of users in the field will have more impact." With the program's first update due soon, this is a chance to make your voice heard, so if you're an *Enable* user or just want more information, contact Lion at 38 Glen Drive, Mill Valley, CA 94941, or call (415) 383-2337. And if you don't know what *Enable* is or what it can do for you, see the review in this month's Business Software Reviews section,

Lisa Storrie-Lombardi of the **Lisa/Macintosh SIG** of Washington's **Apple Co-Op** sends along this month's *32 Little Apples* newsletter, which once again has many useful bits of information for the Mac user· tips on upgrades, hints for getting unexpected benefits from your equipment and software, new items of interest in the public domain, and open-ended questions and answers. Once again, this monthly publication is mailed to members of the A.P.P.L.E. Co-Op, 290 SW 43rd, Renton, WA 98055 (dues are $26/yr., with a one-time application fee of $25. For a short time, the Co-Op is running a first-time membership special of $49).

On the **Sanyo** front, it seems that a lot of people are out there forming user groups. **Kenneth E. Taylor** of San Mateo writes that there's a **Bay Area Chapter** of the **Sanyo National User's Group** forming for support of the MBC-55X series, and suggests that you call (415) 582-1667 or (415) 345-7781 for information. **Jim Thomas** also writes announcing the existence of the **Santa Clara Sanyo Users Group**, also for MBC-55X machine users. Call Jim at (415) 651-0201 for details of this group. But alas, things are somewhat less rosy in the life of **Chris Haun** of Hollywood. He sends our classifieds department the following distress signal: "Sanyo MBC-555 Alone In LA. Novice Sanyo Owner learning WordStar for screenwriting. Feel adrift in a stream of IBMs and Apples. Seek other Sanyo owners to learn with and from." If you have the inclination and the ability, take pity on Chris and give him a call at (213) 876-4353.

Last but not least, if you live in the Bay Area and are looking for a low-cost computerized telecommunication system, check out **The WELL**, from the **Whole Earth** folks in Sausalito. The WELL costs $8 per month, $2 per hour (billed to the user's MasterCard or VISA) plus a $1-per-hour access fee from Pacific Bell. Initial services will include electronic mail, computerized conferencing, and online "chat." The Whole Earth people warn that The WELL (short for Whole Earth 'Lectronic Link) is likely to go through some awkward stages in initial months, but the potential is great. "Users for the first several months should consider themselves pioneers — with the frustrations, frequent changes, and occasional excitement that go with that role. You'll be helping refine the system as you use it." If this sounds like your kind of adventure, call **Matthew McClure** or **Jim Stockford** at (415) 332-4335.

And finally, send me your listings, event announcements, or general remarks directed to the user-group community, and I'll pass them along: MicroTimes User Group Listings, 5951 Canning St., Oakland, CA 94609, attn. Mary Eisenhart.

Bad News From BBS-Land

Some MicroTimes readers may remember Steve Huntley, sysop of "Los Angeles Communication System," from our March article "BBS-Land." Huntley was notable for his support of first-time users, his generosity with advice, and his determination to keep his board free. "Charging money would defeat the reason I put the board up, which was to help people who are new at it," he told writer Jeff Spurrier at the time. "That's why I'm there, to promote it, to make people less afraid of it. Some of the public domain stuff is such a learning experience."

Unfortunately, as Spurrier reports after a recent conversation with Huntley, not all the bulletin board's users responded in the same spirit. On April 2, Huntley was working on the board when his wife called him to dinner. He went, and discovered upon his return that all user files had been erased — over 800 regular users.

As it turned out, the perpetrator was not hard to identify, since Huntley's computer automatically prints out everything that happens on the board. Identifying the culprit as a local 13-year-old, the recipient of a good deal of assistance from Huntley in the past, he telephoned the youthful hacker, who hung up on him. Huntley then sent a copy of the printout to the youth's father, who is reputed to have confiscated his son's modem.

Asked what may have prompted this act of sabotage, Huntley shrugged, "To be malicious. That's exactly it, he's trying to be a *War Games* kid."

Rumors notwithstanding, Huntley is neither closing the board nor starting to charge money for its use. "I can't punish everybody else because of one little jerk," he told Spurrier. The board is still operating at (213) 935-7570, and Huntley reports that since the debacle he's received over 600 calls from 300 new users.

— ME

BULLETIN BOARDS

NORTHERN CALIFORNIA

Kayfog RBBS & RCP/M (Fog System 11) (415) 285-2687; Free; special help for newcomers, Kaypro, Morrow, Osborne, and CP/M.

Napa Valley RBBS/RCP/M (707) 257-6502. Interests in Atari, Apple, Osborne, dBase II.

Bay Area Atari Users Group 24 hour BBS (408) 578-2390.

NCR BBS of Northern California Bulletin Board System for all users of NCR Microcomputers (Decision Mate V and PC-4). Learn more about NCR's microcomputers.

TI-Comm BBS 8:30 pm to 6:00 am, 7 days a week. 300 baud. Multiple message bases, features, and ELIZA. (408) 926-4413.

The Bay PBBS 300/1200 Baud full duplex. 24 hrs., 20 megs online. Apple super-32 computer section, excellent Macintosh/ Apple II downloads. (415) 775-2384. Easiest to get through in the mornings.

TI BBS 300 baud, 24 hours. All systems welcome. Free. 4 message bases, large data base on various subjects. (415) 994-4877.

BAKUP (Bay Area Kay pro Users and Programmers) (415) 223-2237 RBBS & RCP/M — Must be a member of BAKUP, P.O. Box 20181, Oakland, CA 94620.

NCR BBS of Northern California (408) 744-0556. Bulletin board for all users of NCR microcomputers (PC-4 and Decision Mate V). Learn more about NCR's microcomputers. Contact Lee Sherman or Jim Chandler, 756 San Aleso Ave., Sunnyvale, CA. (408) 743-4933.

SiMMS (Silicon Valley Interchange) 4000 files on line. New releases, communications, and utilities for CP/M based computers are available on a nonprofit public-domain, 24 hour remote CP/M system. The SiMMS (Silicon Multiple Message System) Network Headquarters runs on a CompuPro 816 with 40 megabyte hard-disk drive. The Modem number is (408) 732-9190. To register, send a six-digit password and $25 to SiMMS Headquarters, Silicon Valley Interchange RCP/M Registration, Box 532, Cupertino, CA 95015. Sysop: Ed Svoboda Jr.

MBL Referral System BBS A board dedicated to personal messages and advertising listings. Modem: (415) 444-6362; 6 pm - 6 am weekdays, 24 hours weekends. MBLRS BBS users meeting Saturdays, 5:30 pm, 1555 Lakeside Drive, Suite 23, Oakland. Call (415) 444-3033 for info, ask for Mel.

Entertainment Network. Features Top 10 Music charts, Top 5 books, videos, movies, computer software, video and movie reviews. Software dept. (10-80% off on Apple, Atari, Commodore & IBM), E-mail, upload, download, multiple message boards, new releases and much more. Sysop: Raaj Menon. (415) 471-3591.

ROOTS—BBS. Available 24 hours, 7 days a week, supports 300/1200 baud at 8/N/1. Specializes in genealogical info with messages, upload and download of CP/M, DOS, Apple software. Sysop: Brian Mavrogeorge. (415) 584-0697.

Vortex BBS. (916) 481-0194. 24 hours, 300 baud. Pamela Lunsford, sysop.

SOUTHERN CALIFORNIA

Gamenet Bulletin Board System. BBS is devoted 100% to gaming subjects. 24 hours, 20 boards, 10 D&D/RPG boards, Alkahest, professional book reviews. Unending Story, Adventurers' Training Ground, Game Hint, etc. Sysop: L.J. Phone: (213) 541-8039.

The Consultant's Exchange BBS Serving professional computer consultants and students since 1983 with the finest public domain software for the IBM-PC. Featuring consultants list and job list. (714) 842-6348 24 hours.

Thousand Oaks Technical (805) 493-1495. This massive 64 megabyte board has a mind-boggling number of downloadable programs. The board has no bulletin board feature and allows unlimited upload time. Download time is limited depending on upload exchange.

Granada Engineering Group RCP/M (818) 360-5053. Technical information, BBS lists, and help on CP/M assembly language program writing.

Aware II (213) 851-0780. Sports BBS with different discussion boards centered around USFL, baseball, etc.

Junkyard Data (213) 867-9541. Multi-interest board in Norwalk with everything from jokes and for sale items to reviews (movies & software), trivia questions, an adults only section, etc.

Marina Matchup (213) 397-6300. This Mar Vista-based dating board operates with Martian software.

Lynzie's Motherboard North Hollywood; multi-interest board with public boards, entertainers exchange, job exchange info. Runs on IBM-PC with 10 mb storage, operates on Martian Software, runs 24 hours a day. (818) 508-6482.

Bulletin Board System. BBS devoted to handicappers and racing fans in So. Cal. On line every weekend. Log-on: race data for Santa Anita, Hollywood Park and Del Mar. (213) 934-6026.

Videodrome BBS. Where computers and video meet. (213) 324-5882 from 12 pm-2 am. Open every day, 7 days a week. A Commodore 64 system.

ASSOCIATIONS

NORTHERN CALIFORNIA

California Software Electronic Consultants (CAL-SEC) California Software and Electronic Consultants Network. Support Groups — Workshops — Legal Referral — Newsletter. $30 Membership or SASE to CAL-SEC, 3046 College Ave. #4. Berkeley, CA 94705.

Community Entrepreneurs Organization (CEO) Business networking group meets around SF area. Invests in new products, markets, brainstorms. Share info. on tech and non-tech business issues. 4 meeting locations, various week nights. Contact Dr. Crandall, P.O. Box 2781, San Rafael, CA 94912. (415) 435-4461.

Computer Professionals For Social Responsibility P.O. Box 717, Palo Alto, CA 94301. (415) 322-3778.

Computer Professionals For Social Responsibility (EAST BAY) 902 Rose Ave., Piedmont, CA 94611. Contact Bruce Joffe, (415) 768-0288 days, (415) 654-5263 eves.

FOCUS-MED (Federation of Computer Users in Medicine). Open to all physicians and health professionals. Practice management consultant registry. (415) 626-4600.

FOCUS-DDS (Federation of Computer Users in Dentistry). Open to all dentists and dental professionals. Practice management consultant registry. (415) 626-4600.

NEW METHODS. Listings of Animal and Veterinary groups; book publishers; associations — all fields, manufacturers and related; animal professionals; others available upon request. Contact Ronald S. Lippert, AHT, P.O. Box 22605, San Francisco, CA 94122, (415) 664-3469.

San Bruno Computer Club. Meetings Wednesday 7:30 pm. Call Pete Testart, (415) 952-9309 for information.

PRACSA (Public Remote Access Computer Standards Association) offers to clubs, schools, and user groups a Speakers Bureau. The purpose of the bureau is to act as a resource to these groups in obtaining speakers of high quality for their meetings. The volunteer speaker is provided free to the group. Contact (408) 262-5150. Meetings 4th Wednesday, 7 pm, Vadic Cafeteria, 222 Caspian Dr., Sunnyvale.

SOUTHERN CALIFORNIA

Computer Professionals for Social Responsibility. The LA chapter is interested in computer reliability and preventing nuclear war, the socially useful direction of computer research, and similar topics. They meet the third Monday at 7:30 pm at the Nuclear Information Center, 1431 Ocean Ave., Suite B, Santa Monica. Phone (213) 747-3219 for more information.

The North Orange County Computer Club This group is the largest and perhaps the oldest in the county. It is affiliated with a large number of special interest groups and offers something for just about every user. General meetings are usually the first Sunday of every month in the Hashinger Auditorium, Chapman College, Orange. For info, call (714) 998-8080.

The South Orange County Computer Club A general computer club that meets the first Tuesday of every month at 3545 Harbor Blvd.,Costa Mesa. Meetings begin at 7:00 P.M.

USER GROUPS

NORTHERN CALIFORNIA

ADAM

California's Adam Users' Group. For a sample issue of the newsletter and a hardware-software catalog free, send your address to CAUG, 1643 Beach St., San Francisco, CA 94123.

APPLE

San Francisco Apple Core Meets every third Saturday of the month at Fort Mason, Bldg. C, Room 100 at 10 am. New products and innovations are featured for Apple II, Apple III, Macintosh and Lisa. Public domain library, SIGs, tech help, newsletter. $20 per year membership. Info: SF Apple Core, 1515 Sloat Blvd., Suite 2, San Francisco, CA 94132. (415) 566-2342 (voice), (415) 474-8608 (BBS/modem).

SPCA (Society For The Prevention of Cruelty To Apples) The Society for the Prevention of Cruelty to Apples is a club for owners of Apple, Apple-compatible (Franklin, etc.) and Macintosh personal computers. It meets at 7:30 pm on the last Wednesday of the month at Thornton Jr. High School, on Thornton Ave. at Dusterberry, in Fremont. Contact SPCA Publicity Chairman Milton Buck, 5246 Channel Drive, Newark, or call (415) 794-2822 for more info.

Association of Apple 32 Users Macintosh, Lisa. An association of "knowledge workers" who wish to share information on products, applications, and events. User-developed, non-copyrighted software, SIGS, newsletter. P.O. Box 634, Santa Clara, CA 95052.

Apple Eaters UG. Enthusiastic new Hayward-based user group. We have teachers, bulletin board fanatics, and machine langauge user sub-group. Contact Paul Stryker, (415) 782-9250. Meetings at 22406 Foothill Dr., Hayward, CA 94541, 1st Thursday of the month.

Pen Apple. Pen Apple Users Group meets 2nd Thursday of each month at AMPEX cafeteria, 7:30 pm, Redwood City. Draco Bulletin Board. Contact Karl Shores (415) 366-0339.

ASHTON-TATE

Framework/Editor Bay Area Users Group (FREDBUG) Purpose of the group is to share programming and applications techniques under FRAMEWORK for the business and technical professional. Call for info: Rudi Wiedemann, (408) 730-4159.

San Francisco dBase User Group For advanced users and programmers. Meets once per month. Membership required for attendance. Contact Frank A. De Coster, 1100 Gough St., San Francisco, CA 94109, (415) 474-6693.

dBase Users Group. Meets 2nd Tuesday each month at Softwaire Center, 1975 Diamond Blvd. #C220, Concord (Willows Shopping Center), 7:30-9 pm. Contact Cyndy Kolnick (415) 235-7317 for information.

ATARI

ABACUS (Atari Bay Area Computer Users Society) All ATARI users or prospective users are welcome. Membership ($15/year) provides public domain software, low cost blank disks, monthly newsletter, group prices on hardware and software, help from experts, low cost classes for beginners. Meetings first Saturday of the month, Fort Mason, SF, Room 300, Bldg. C, 10 am-2 pm. Contact Bill Zinn, P.O. Box 1823, Mill Valley, CA 94941. (415)

USER GROUP NOTES

753-8483.

A.C.M.E. (Atari Computer — Marin Enthusiasts) Meets monthly in Marin, third Thursday evening monthly from 7 pm on. Gallinas School, 177 N. San Pedro Rd., San Rafael. Contact Bruce Frank, (415) 435-6020, P.O. Box 222, Tiburon, CA 94920.

Diablo Valley Atari Computer Enthusiasts (D.A.C.E.) Contact Richard C. Foster, Secretary, 3760 Lindero Drive, Concord, CA 94519.

Bay Area Atari Users Group We have a 24-hour BBS at (408) 578-2390. Meetings at Dysan Auditorium, 4201 Patrick Henry Drive, Santa Clara, CA 95050, first Monday of the month. Contact Frank Nagle, P.O. Box 50459, Palo Alto, CA 94303, (415) 940-1323 for more info.

San Leandro Computer Club Although open to all computer users, this group is primarily oriented to Atari computer owners. Our club is considered one of the best in the country, worthy of consideration by both novices and experts. Meetings 1st Tuesday of the month at San Leandro Community Library, 300 Estudillo Ave., San Leandro, CA. Contact Phil Mitchell, P.O. Box 1525, San Leandro, CA 94577-0152 for more info, or call (415) 351-2208.

ATTACHE

Attache UNL Otrona may be dead, but the Attache Users News Letter Lives ON!! Contact Jim Ayers, 301 Poplar St., Mill Valley, CA 94941. (415) 388-4805. Meetings 7:30 pm, 2nd Wednesday.

BASIS

Bay BUG Basis 108 Users meet every first Friday of the month at College of Alameda Computer Room, 7:30 pm. Contact Roger Bernhardt, 536 Mission, San Francisco or call (415) 221-0262 for more information.

COMMODORE

San Francisco Commodore Users Group Public domain library, classes, tech help, in depth demonstrations, monthly newsletters, Epromer, savings on purchases, all this and more. BBS # (415) 567-5046 300 baud. Meeting address 256 Laguna Honda Blvd., San Francisco, 3rd Tuesday of the month, 7:30 pm. Contact Roger Tierce, 278 27th Ave. # 102, SF, CA 94121, (415) 387-0225.

20/64 Computer Users Group — San Jose Meets first Sunday of the month at the Theatre Building, San Jose City College, from 6 to 9 pm. (Donations requested to help defray cost of renting meeting space.) Call Herb Miller, (408) 253-2064 for more info, or write P.O. Box 18473, San Jose 95158.

20/64 Computer Users Group — San Jose North Valley Meets second Saturday of the month at the second floor Community Room of Montgomery Ward's, Capitol and McKee Roads, San Jose, from 10 am to noon. (408) 253-2064.

20/64 Club The Cupertino chapter of the 20/64 club for Commodore users meets the second Sunday of each month, Cupertino Public Library, 6 pm. Contact Rex Ackerman, P.O. Box 61063, Sunnyvale, CA 94086. Phone (408) 245-7270.

20/64 Computer Users Group — Campbell Meets the fourth Tuesday of the month at the Campbell Public Library, 70 North Central Avenue, Campbell, from 6:30 to 9:30 pm. (408) 253-2064.

20/64 Computer Users Group — Gilroy Meets the second Wednesday of the month at the Gilroy Public Library, 7397 Rosana Street, Gilroy, from 7 to 9 pm. (408) 253-2064.

Diablo Valley Commodore Users Group Meetings Contra Costa Water District Auditorium, 1331 Concord Ave., Concord, CA, second Thursday of month at 7:30 pm. Write DVCUG, P.O. Box 27155, Concord, CA 94527, or call (415) 838-2838 for more info.

Napa Valley Commodore Computer Club Meets first and third Mondays, 7:30 pm, at Northwood Elementary School, 2214 Berk St., Napa. Take Redwood Road to Dover St. to Berk St. Contact President Dick Bull (707) 257-3773 or vice-president Roger Pruym (707) 253-1690 for more info.

Lake County Commodore Users Group Contact Al Reuss, P.O. Box 388, Clearlake, CA 95422.

Marin Commodore Club Meets at Redwood High School, Corte Madera. Visitors welcome. Contact Elmer Johnson for information: 665 Las Colindas, San Rafael, (415) 479-0426.

PUG of the Silicon Valley Commodore 64 (PETs, 8032s, 2001s also). Friendly computer group established back in 1977 with a very extensive disk library. No dues, donations only. Bring your machines to the meeting or use club dual disk drive to copy programs. Meets at cafeteria, Ford Aerospace Bldg. #3, 3939 Fabian Way, Palo Alto, CA 94303, 1st Wednesdays of the month, 7-10 pm. Contact Marvin Vander Kooi, (408) 446-1936.

Peninsula Commodore User Group Public domain library, demonstrations, user help, newsletter. Membership is $25 per year. Non-members pay $2 at door. Meetings are 3rd Tuesday of each month. Meeting place is the Church of the Good Shepherd Hall, 1300 5th Ave., Belmont (across from city hall). For more info call (415) 595-5452 between 9 am and 6 pm, or call our BBS at the same number after 6 pm.

CROMEMCO

Silicon Valley Cromemco Users Meets 4th Tuesday of the month at MCM Enterprises. 215 Hamilton Avenue, Palo Alto, CA. Call Ken Brown at (415) 327-8080 for details.

EAGLE

Eagle Computer Users Group (ECUG) Forum for exchange of info and ideas relating to Eagle Computers. Meetings and classes in WP, Data Base, Modems, CP/M, MS/DOS, etc. Meetings at Mercury Savings and Loan, 859 Blossom Hill Road, San Jose, fourth Monday of the month, 7 - 9 pm. Contact David Meisman, P.O. Box 8431, San Jose, CA 95155, (408) 973-1254/973-1460.

Screaming Eagles user group is for Eagle II (8-bit) machines and programs. Public domain disks, newsletter (quarterly, $5), hardware and software discounts, tech help and SIGs. CompuServe PCS-54 anytime; contact Leslie Lieurance, 101m Parnassus #1, San Francisco, CA 94117 (415) 661-4362 (voice).

ENABLE

ENABLE Users Group Now forming. Contact Lion Goodman, 38 Glen Dr., Mill Valley, CA 94941. (415) 383-2337.

EPSON

Bay Area Epson Salts — Epson 125 Del Centro, Millbrae, CA 94030, (415) 697-0567.

Epson Users of San Francisco Bay Area Epson group has nationally circulated newsletter *Valnews*: 400 members — mostly QX-10 owners, growing software library. Meetings focus on mutual support. Mainly Valdocs and other applications. Meetings first Thursdays. 7 p.m. Fort Mason Center, Bldg. C, Room 205, San Francisco. Contact Alan Magary, 904 Irving St., Suite 271, San Francisco CA 94122, (415) 661-9270.

Napa Valley Epson Users Group 1307 Hestia Way, Napa, CA 94558, (707) 253-8727.

FORTH

FORTH Interest Group, Berkeley Chapter. Meets 2nd Saturday of the month at 1 pm, 10 Evans Hall, UC Berkeley. Contact Mike Perry, (415) 644-3421.

FORTH Interest Group, Monterey/ Salinas Chapter. Contact Bud Devins, (408) 633-3253.

FORTH Interest Group, Sacramento Chapter. Meets 2nd Tuesday of the month, 7 pm, 170B 59th St., Room C. Contact Tom Ghormley (916) 444-7775.

FORTH Interest Group, Bay Area Chapter. Meets 4th Saturday of the month, 10 am advanced, 1 pm beginning, at ABC Christian School Auditorium, Dartmouth and San Carlos Ave., San Carlos (408) 277-0668.

FORTH Interest Group, Stockton chapter. Contact Doug Dillon (209) 931-2448.

GAVILAN

Gavilan Users Group. BBS (408) 978-DATA 300/1200. Meeting 2nd Thursday 7:30 pm, 10250 De Anza Blvd., Cupertino. Info call Bob Brown (408) 379-2774.

HEATHKIT

San Jose Heathkit Users Group. Meets first Wednesday at 7 pm at the Heathkit store on South Bascom Ave. in Campbell.

IBM

San Francisco PC Users Group Largest SF group focusing on IBM and compatibles. Over 150 disks of public domain software, excellent monthly newsletter. 800+ members, $25/year. Please contact Rick Alber, 3853 18th St., SF 94114. (415) 864-5141.

South County PC Users Group Meetings held second Thursday of each month, at Software Center, 22406 Foothill Blvd., Hayward, CA. Public Domain club disks, newsletter and help on MS-DOS problems. Contact Debra Taylor, P.O. Box 7656, Fremont CA 94537-7656 for more info, or call (415) 276-5111.

Sacramento IBM-PC Users Group. P.O. Box 685, Citrus Heights, CA 95610. Contact George W. Lefler (916) 988-2274.

SVCS (Silicon Valley Computer Society). IBM users group. Meets second Wednesday at 7 pm at the Westinghouse auditorium located on the corner of Duane and Britton Aves., in Sunnyvale.

KAYPRO

Santa Rosa KUG Owners of Kaypro computers or CP/M systems are invited to join the SRKUG. We conduct seminars and software instruction/training. Come join the fun. Meetings 3rd Thursdays of the month at 7 pm. Call for meeting address: James Daniels, 1029 Damon Court. Santa Rosa, CA 95401. (707) 575-8149.

BAKUP (Bay Area Kaypro Users and Programmers). One of largest Kaypro user groups in country. Meets 3rd Tuesday of month, 7:30 pm. We support our RBBS/ RCPM for members, publish a monthly newsletter, have a 40 volume software library, and a lot of fellow KP'ers! Write for info, $10 per year to join: Membership Coordinator, P.O. Box 20181, Oakland, CA 94620.

KAYFUN Peninsula Kaypro Users Group meets second Thursday of every month at 7:30 pm in the ground floor social room, 222 Laurel St., San Carlos. Bimonthly newsletter, public domain software library, and publication library. Membership $12 per year. Every third meeting a Free Forum night dedicated to individual help. Contact Larry Welling, 222 Laurel St. #310, San Carlos, CA 94070, (415) 593-9981.

MACINTOSH

EBMUG (East Bay Macintosh User's Group) Friendly, informal. Public domain software and computer book library. Information exchange. Speakers. Product discounts. Free admission. Meets at El Cerrito Public Library, 6510 Stockton. El Cerrito, CA. third Tuesday of each month at 7:30 pm. Contact Shep Tamler, 5901 Broadway #7, Oakland, CA 94618. (415) 653-5849.

Bay Area MacForum New and experienced Macintosh users. 2 monthly meetings: one immediately following San Francisco Apple Core meeting at Fort Mason, Building C, Room 300, San Francisco, 3rd Saturday of the month; one at Software Center, The Willows Shopping Center in Concord, second Monday of the month, 7 pm - 9 pm. For info: 1515 Sloat Blvd. #2, San Francisco, CA 94132, (415) 566-2342

Berkeley Macintosh Users Group meets every Thursday evening at 5:30 pm on the UC Berkeley campus, in Physical Sciences Lecture Hall (near East Gate). Speakers, discussions, questions and answers. Developer SIG meets every other Wednesday at 5:30 pm on UCB campus in Dwinelle Hall lobby. For more info contact Reese Jones, Director, 1442A Walnut St., Suite #153, Berkeley, CA 94709 or call (415) 849-9114.

MacNexus. Sacramento's Macintosh User Group. 150 members, but still informal. Extensive public domain collection. Contact Gail McGovern, P.O. Box 60908, Sacramento, CA 95860, (916) 446-2411. Meetings 3rd Thursdays, 6:30 pm, Almond Plaza, 17th & C, Sacramento.

MICRO DECISION

BAMDUA (Bay Area Micro Decision Users Association). Meets on last Tuesday of the month, 7:30 pm. Call (415) 644-2805 for location. Monthly newsletter.

MINDSET

First Mindset Users Group The only users group for Mindset computer owners and users. Monthly meetings cover advanced microcomputer graphics and more. Meeting at Graphic Reproduction, 181 Mission Street, SF, March 18. Call David Duberman (415) 668-8352 for more info, or write him at 355 15th Avenue #5, San Francisco.

NORTHSTAR

INSUA Largest North Star users group in the world. Members' newsletter and software library. Membership dues $20. Contact George Riddle, P.O. Box 2910, Fairfield, CA 94533.

OSBORNE

East Bay FOG (First Osborne Group) Osborne, Kaypro and Morrow. Meets second Wednesday of the month at B&B Electric, 2832 Ford Street, Oakland. 6 pm workshops, 7:30 pm program. For info contact A Central Place, 477 15th St., Room 200. Oakland, CA 94612. (415) 834-7897.

SMOG3 Osborne User Group (Peninsula) Meets first and second Monday of every month at Crane Place, 1331 Crane, Menlo Park. Call Phil Moore at (415) 325-2442.

MTDOG (Mt. Diablo Chapter—First Osborne Group) Meetings 7 pm, 3rd Wednesday each month in Diablo Room (top floor), SF Federal Savings and Loan, 1660 Olympic Blvd. (cross-street: California), Walnut Creek. Software library, software/hardware/service demonstrations, sharing problems and solutions. For meeting info contact Sylvia Tobias, (415) 376-4720.

FREE
USER GROUP LISTINGS

MicroTimes is a new, free computer magazine with a current monthly distribution of 100,000 copies in Northern and Southern California. In addition to interviews, features and reviews, we offer a free listing service to user groups, bulletin boards and computer associations. Let us hear from you. Use this coupon for your listing, and feel free to include any additional information for our newsreels column. Please send us your listing by the third week of the month *preceding* the issue in which you want your first listing to run.

User group name _____

Contact name _____

Address _____

Phone number _____

Text of ad _____

_____

_____

_____

_____

Meeting address _____

Meeting time and date _____

Mail to: **MicroTimes User Group Listings**
1800 N. Highland #220
Hollywood, CA 90028
or
5951 Canning Street
Oakland, CA 94609

WELCOME TO THE WORLD OF MIGHTY MENU*
THE WORLD OF UNIX**/XENIX*** MADE SIMPLE

OUR MENU-DRIVEN SHELL, ESPECIALLY CREATED FOR THE UNIX SYSTEM, PROVIDES YOU WITH A MENU-DRIVEN ENVIRONMENT WITHOUT LIMITING THE SYSTEM. **MIGHTY MENU** SIMPLIFIES THE UNIX SYSTEM AND SAVES YOU TIME AND MONEY.

FEATURES:

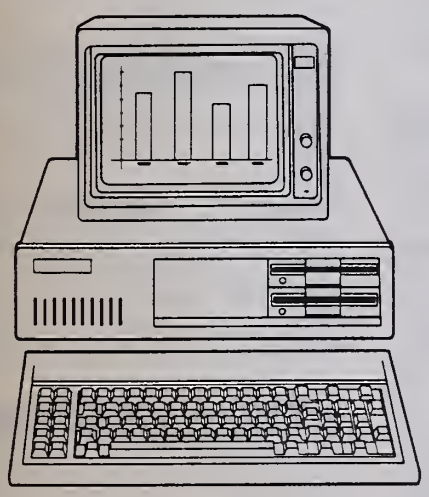
1. CUSTOMIZED MENUS AND USER ENVIRONMENTS. **MIGHTY MENU** MAKES UNIX EASY TO WORK WITH, BUT DOES NOT LIMIT THE FLEXIBILITY OF THE UNIX SYSTEM.
2. NOVICE USERS CAN INTERACT WITH **MIGHTY MENU** WITHOUT ANY UNIX TRAINING.
3. EXPERIENCED USERS WILL FIND **MIGHTY MENU** A CONVENIENCE AND A TIMESAVER. THE **MIGHTY MENU** SHELL CAN BE TAILORED TO MEET THE NEEDS OF ANY USER.
4. SYSTEM MANAGERS WILL ENJOY THE ORGANIZATIONAL POWERS OF **MIGHTY MENU**. IN ADDITION, USERS CAN BE LIMITED IN THEIR ACCESS TO THE SYSTEM, IF DESIRED.

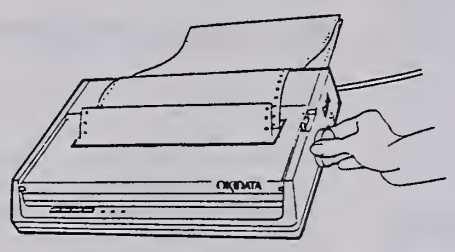
$350.00

DPI, INC. (415) 593-1898
1775 Old County Road #3 Belmont, CA 94002

* MIGHTY MENU™ IS A TRADEMARK OF DPI, INC.
** UNIX™ IS A TRADEMARK OF BELL LABORATORIES
*** XENIX™ IS A TRADEMARK OF MICROSOFT, CORP.

Finally . . . AN IBM-COMPATIBLE
PERSONAL COMPUTER SYSTEM





ONLY $1995 or $79 per month *

CALL AND ORDER IT OR COME IN AND SEE IT
IT'S ON DISPLAY (NO SALESPEOPLE TO BOTHER YOU)

INCLUDES

COMPUTER: IBM-PC COMPATIBLE (HARDWARE AND SOFTWARE), TWO 360KB DISK DRIVES, 256K RAM, 16-BIT CPU, MONOCHROME DISPLAY & CONTROLLER, IBM-COMPATIBLE KEYBOARD, SERIAL/PARALLEL PORTS, DOS 2.11, UTILITIES, GW-BASIC, DOCUMENTATION, 90 DAY WARRANTY *
PRINTER: COMPATIBLE WITH EVERY MAJOR SOFTWARE PACKAGE, MULTI-MODE PRINTING, 120CPS BIDIRECTIONAL 60CPS ENHANCED PRINTING, SPECIAL CHARACTER PRINTING, GRAPHICS-CHARTS/GRAPHS/DRAWINGS, 3,000,000 CHARACTER RIBBON, 200,000,000 CHARACTER PRINTHEAD, ONE YEAR WARRANTY **

Retail Prices: Computer $2595, Printer $299, Total $2894, Your Price $1995, SAVE $962

FOR USE: AT HOME, OFFICE, SCHOOL, STORE, CLUB, ETC.
BY ACCOUNTANTS, BANKERS, STUDENTS, MANAGERS, ENGINEERS, CONSULTANTS, WRITERS, SECRETARIES, LAWYERS, DENTISTS, TEACHERS, RETAIL STORES, SALES PEOPLE, OFFICE STAFF . . .

OTHER PRODUCTS ON DISPLAY: IBM-XT COMPATIBLES, DEDICATED WORD-PROCESSING SYSTEMS (SINGLE AND MULTIUSER), SOFTWARE, TERMINALS, PRINTERS, PERIPHERALS, SUPPLIES

NABI SYSTEMS
(DIVISION OF CFDO) OEM

SALES • RENTALS • LEASING • SERVICE • TRAINING

408/297-3453
708 N. FIRST STREET SAN JOSE CA 95112

IBM registered trademark of IBM. Information, prices subject to changes without notice. Add applicable sales and use tax.
* Subject to formal credit approval.
** Service Contracts also available.

USER GROUP NOTES

PICONET

Piconet CP/M Users Group. Meets second Thursday at 7 pm at the Stanford Linear Accelerator Auditorium, Palo Alto. The password at the gate is "Piconet Meeting."

PIED PIPER

Pied Piper Users Group Owners of Pied Piper CP/M based computer are invited to call or attend the PPUG. Meets last Tuesday of the month at 7:30 pm. Please call (415) 638-1146. Meeting address: 10950 Elvessa St., Oakland 94605.

R2E

North Bay R2E Forming user group for R2E System microcomputer users. Please call (415) 235-1598 for information.

RADIO SHACK/TRS

Byte Bandits of America TRS-80's workshop computers club — bimonthly meetings — 2nd Saturday and 4th Wednesday of the month. Bring your computers. Free membership. Modem (408) 374-3974. Meetings at 780 Many Ave., Campbell, CA. For info contact R.W. Brown, (408) 379-2774.

TRS-80 Computer Society of Diablo Valley The purpose of this group is the sharing of information, problem solving, support group, purchasing discounts, support for professional, business and educational users of Radio Shack computers. Out-of-area members welcome. Meetings second Tuesdays of the month, Willow Creek Center, 1026 Mohr Lane, Concord, 7:30-9:30 pm. Doors open at 7. Contact Roy or Sue Copeland, P.O. Box 23438, Pleasant Hill, CA 94523, (415) 372-7003.

MCTUG (Marin County TRS-80 Users Group). Meets once a month on the second Monday. Meetings start promptly at 7:30 pm in the Larkspur Masonic Lodge, 1122 Magnolia Avenue, Larkspur. For information contact Frank Hovell (707) 762-5740 or Lois Johnstad (415) 453-5412.

SAMNA Word

SAMNA Word III San Francisco or East Bay telephone network forming to discuss glitches, ideas, and interface hassles. Contact Shanti Pederson, (415) 982-8898.

SANYO

Sanyo 1100/1200 User Group of the San Francisco Bay Area. P.O. Box 297, San Mateo, 8-10 pm, every 2nd Friday of month. Send large self-addressed stamped envelope for copy of newsletter.

Sanyo MBC 1100-1150 user group now forming in Oakland. Call or write (415) 534-1981, 5885 Bancroft Ave., Oakland 94605 for meeting time and location.

Sanyo User Group of the San Francisco Bay Area meets 2nd Friday of the month at Sears Savings Bank, 1820 S. Grant, San Mateo, 8 - 10 pm. Devoted to Sanyo 8-bit CP/M machines: MBC 1000, 1100, 1200 series. For info write 1260 Westwood St., Redwood City, CA 94061.

Sanyo. Bay Area Chapter of the Sanyo National User's Group is now forming for support of Sanyo MBC-55X Series. Call now and participate in the forming of this new user-oriented support group. (415) 582-1667 or (415) 345-7781.

Santa Clara Sanyo Users Group. SCSUG's 24 hour BBS (415) 659-9169. Support for MBC-55X Systems. Meetings at 1 West Campbell Ave. #80, Campbell, 7-10 pm every 3rd Wednesday of the month. Contact Jim Thomas, (415) 651-0201 for info.

TEXAS INSTRUMENTS

San Francisco 99ers One General Meeting per month plus uncountable mini-meetings for training. Over 500 programs available in library. Meetings second Tuesday of the month, 6:30 pm. Texas Instruments Learning Center, SF. Contact Dick Altman, 1053 Shrader St., San Francisco. (415) 661-1994.

South Bay T.I. User Group. One general meeting per month. We have training session, library and own bulletin board (408) 578-6264. Meets first Thursday of each month at 7:00 pm, 1368 N. 4th St., San Jose. Contact Fred Roettger, v.p., for info: (408) 253-3510.

TIMEX/SINCLAIR

East Bay Timex/Sinclair User Group (EBZUG) Timex/Sinclair user group. S/W library and newsletter. Meets at West Branch of Berkeley Public Library at corner of University and San Pablo. Meets 3rd Tuesday of the month at 7:30 pm. Contact Rick Link. 654 40th St., Richmond, CA 94805. (415) 234-3310.

Peninsula Timex/Sinclair User Group (PUG) Timex/Sinclair user group. S/W library and newsletter. Meets at Peninsula Hospital, 1783 El Camino, Burlingame. Meets 3rd Sunday of the month at 1 pm. Contact George Mockridge, 263 Gateway #107, Pacifica, CA 94044. (415) 359-3198.

Silicon Valley Timex/Sinclair User Group (SVTSUG) Timex/Sinclair user group. S/W library and newsletter. Meets at Dysan Corp., 5201 Patrick Henry Drive, Santa Clara. Meets last Tuesday of the month at 7 pm. Contact Rita Carr, P.O. Box 4133, Santa Clara, CA 94044-0133. (408) 738-2888 ext. 45.

UNIX

The Unix C-Club Seminars, public domain softwares, information exchange, Unix hardwares and softwares. Discount on purchases. Meets 2nd Saturday of each month at 10 am. Call Gilbert B. Dalit at (415) 348-6723 or (408) 238-5587 for more information, or write: 122 2nd Ave., Suite 214, San mateo, CA 94401.

VECTOR

Bay Area Vector Group Meeting held regularly. Please call to be put on mailing list. You will be informed of next meeting! Contact Peter Tjeerdsma, 764 Cole St. #4, San Francisco, CA 94117. Phone (415) 681-0308.

VICTOR

Victor* Group is the San Francisco Bay Area Victor User's Group. We have three chapters — East Bay, South Bay, and San Francisco. Members can attend meetings at any of the chapters or all of them. The more the merrier. Dues are $30 a year, which includes a subscription to VictorTalk, membership in a Victor-exclusive discount buying cooperative, and the right to buy from our public domain library at a discount. South Bay meetings are held the first Thursday of each month at computer Insights, 40957 Grimmer Blvd., Fremont at 7:30 pm. Contact John Kimber (415) 797-6423. East Bay meetings are held the second Wednesday of the month at 7:30 pm; contact Boardman Moore (415) 283-3285 for location and further info. San Francisco meetings are held the third Sunday of the month at 5 pm at Homestead Savings, 130 West Portal, San Francisco. Contact Joe Zmuda, (415) 584-4048.

San Francisco Victor* Group The San Francisco Victor* Group meets at 4 pm the third Sunday of each month at La Bettola di Adolph Restaurant, corner of Broadway and Montgomery. Come early for public domain copying. Contact Darrell Bross, 254 Winding Way, San Francisco, CA 94112, (415) 586-5788.

SOUTHERN CALIFORNIA

ALTOS

Altos User group forming in West LA area. Contact Margaret Beemer, History Department, UCLA, Los Angeles, CA 90024.

APPLE

The Orange Apple Group All Apple owners are invited. Members are knowledgeable on many usages of all types of Apple machines. Meetings are on the first Saturday of every month from 9:00 to 12:00 a.m. For info, call (714) 897-8943.

South Bay Apple III User Group The Apple III is alive and well in Southern California. Come join us on the IIIrd Tuesday of each month. Product demos and discussions and more. Meeting address 1000 Victoria Avenue, Room #SC-E157, Carson, 7:30 pm, IIIrd Tuesday. Contact Gary, P.O. Box 432, Redondo Beach, CA 90277, (213) 316-7738.

Pasadena Apple Users Group (PAUG) Meets at Century Federal Savings, 199 North Lake Avenue, Pasadena, CA (corner of Lake and Walnut). Enter from the parking lot side. Take the elevator to the basement. The bank unlocks the doors at about 7:15 pm and the meeting starts at 7:30. No dues, new members welcome.

Wabash Apple Users Group Product demos of software and peripherals, discussions, help from experts. Public domain library. Meets twice a month at the Burbank Public Library, 110 N. Glenoaks Blvd., Burbank. Some months there are *no* meetings, so call Marie Kaden for information: (818) 846-6682.

AT&T

AT&T 6300 West LA: AT&T 6300 or 8086 compatible (desk pro) group forming. Contact Miles Hillis, (213) 472-3522, leave name and interest.

ATARI

Atari Computer Association of Orange County (ACAOC). Join one of the biggest Atari user groups in Southern California. Monthly magazine, large public domain library, and BBS privileges for members. Dues $24.00/yr., $18.00 for non-attending out-of-town members. Meetings at Golden West College, Room 123, Huntington Beach, CA 92647, 4th Sunday of each month, 1-5 pm. BBS: (714) 731-6523.

West LA Atari Users Group. Come join fellow Atarians! Dues are $20.00/year. Newsletter, P/D library, ATR-Sig, discounts, guest speakers. Please call for directions to meeting room! If you're reading this, you belong with us. Meetings first Wednesday of the month, 7 pm, Paul Revere Jr. H.S., 1450 Allenford Dr., Brentwood. Call John Scheid, pres., for more information (213) 829-7239.

COMMODORE

Club 64 National user group. Monthly newsletter, BBS, group purchasing, public domain software, much more. Contact: Robert Johnson, (213) 925-4049.

San Diego Commodore Users Group Meets third Tuesday, 7-10 pm, at VFW Bldg., 19th and Broadway, San Diego. Contact Jane Campbell, (619) 277-7214 (between 5 and 9 pm) for more information, or write: P.O. Box 86531, San Diego, CA 92138-6531.

San Fernando Valley Commodore Users Group Meets second Wednesday of the month at Patrick Henry Junior High on Louise Ave. between Devonshire and San Jose in Granada Hills, near 118/405 freeway interchange. Contact Tom Lynch, 21208 Nashville, Chatsworth, CA 91311, (818) 709-4736.

San Luis Obispo Commodore Computer Club 1766 9th St., Los Osos, CA 93402. (805) 528-7475 BBS.

The Commodore Users Group - San Juan Capistrano This group of C64 users meets the second Saturday of every month from 9:00 am till 12:00 at Great American Federal Savings and Loan, 32232 Camino Capo, San Juan Capistrano. For info call 496-5745.

The Commodore Technical Users Group This club is for more advanced C64 users. They meet on the fourth Sunday of every month at Mercury Savings and Loan, 1095 Irvine Blvd., Tustin. Meetings start at 11:00 am.

Hollywood User Group (H.U.G.) for Commodore 64 meets the first Saturday of every month at 6253 Hollywood Blvd., northeast corner of Hollywood/Vine, in the Equitable Building, Room 1219 at 12 noon. Contact: Martin Blackwell, 733 N. Ridgewood Place, L.A., CA 90038/(213) 463-8973. Beginners welcome!

EPSON

Cursor Club — Epson 402 W. Arrow Highway, Suite 6, San Dimas, CA 91773. (714) 559-8361, Bulletin Board: (714) 592-6316.

FoothIII Epson User Group. We meet the fourth Tuesday of every month at Sparr Heights Community Bldg., 3311 Downing St., Glendale, CA, 7:30-9:30 pm. All are invited, speakers, questions, products, public domain disks, etc. Contact Gerald Jamriska, 2960 Hawkridge, La Crescenta, CA 91214, (818) 248-7133 for more info.

Epson Users Group of Orange County 6075 Jeffrey Mark Street, Cypress, CA 90630, (213) 414-4817.

Epson Users of San Diego P.O. Box 87448, San Diego, CA 92138, (619) 560-7604.

High Desert Epson Users Group 933 Cottonwood Drive, Barstow, CA 92311, (619) 256-3541.

PSC/QX 2934 Wilshire Blvd., Santa Monica, CA 90403, (213) 453-4535, Bulletin Board: (213) 474-4952.

South Bay Epson Users Group 1115 Cerise Avenue, Torrance, CA 90503, (213) 328-9916, Bulletin Board: (213) 618-1940.

FORTH

FORTH Interest Group, Los Angeles Chapter. Meets 4th Saturday, 10 am, Hawthorne Public Library, 12700 S. Grevillea, Hawthorne. Contact Phil Wasson (213) 649-1428.

FORTH Interest Group, Orange County Chapter. Meets 1st and 4th Wednesdays, 7 pm. Call Noshir Jesung for info. (714) 842-3032.

FORTH Interest Group, San Diego Chapter. Meets weekly, Thurs., 12 noon, contact Guy Kelly (619) 268-3100 ext. 4784.

FUJITSU

Want User's Group Info Have Fujitsu Micro 16, am looking for a user's group or BBS. Contact Greg Lucido, 5199 E. Pacific Coast Highway, Long Beach, CA 90804.

USER GROUP NOTES

HEWLETT-PACKARD

Club of Hewlett-Packard Hand-Held Users (CHHU) The true personal computer is small enough to always be conveniently with the user. CHHU, pronounced "chew," is dedicated to the ultimate personal computer. Membership is $30/yr. You will receive 10 issues of the CHHU Chronicle. Meetings are announced in the CHHU Chronicle, or contact Richard J. Nelson. 2545 W. Camden Ave., Santa Ana. CA 92704. (714) 754-7757.

IBM

The North Orange County IBM PC Users Group These people are interested in helping any PC users. They meet the second Tuesday of each month at the Sunny Hills Racquet Club in Fullerton at 7:30.

The Greater South Bay IBM PC Users Association Any L.A. area PC or compatible owners are welcome to attend these meetings at the TRW cafeteria on Compton Blvd. Meeting time is 7:00 pm on the third Tuesday of each month. For info call (213) 325-7533.

The Claremont Computer Club This club is for any interested IBM PC users. Meeting starts at 7:30 on the third Monday at the Galileo Edwards Bldg. on the Harvey Mudd Campus. For info call (714) 626-2286.

LISA

The Lisa Club of Los Angeles This is a brand new club just forming for Lisa owners. Meetings are scheduled to be the first Monday of each month. They have no permanent meeting place as of yet, but for information call (213) 852-4994.

MACINTOSH

Los Angeles Macintosh Group (LAMB) Membership fee is $25/yr or $15/yr for students. Membership includes 12 issues of MACDIGEST newsletter, access to public domain library, BBS, discounts at local stores. Meetings at Madison Elementary School, 11th and Arizona Ave., Santa Monica, 2nd Thursday of the month. Contact J. Baram, (213) 392-5697 for information.

MAC-Hollywood (Hollywood Macintosh SIG) meets once monthly on varying weeknights at 7:30 pm. Contact Ron Bastone, (213) 462-2860. Meetings at 1756 N, Garfield Pl., Hollywood, CA.

Ventura County Macintosh Club Mac and Lisa users invited. Membership $21/yr.; newsletter, software library, discussions and ideas. P.O. Box 7754, Oxnard, CA 93031, (805) 983-1610, (805) 499-2824.

NEC

Orange County NEC Users Group (OCNUG) Dedicated to NEC-APC computers, CP/M-86 & MS-DOS. Always room for any experience level. Meets 3 pm, third Saturday of the month. 6642 Lenore, Garden Grove. CA 92645. Call John Bingel at (714) 897-7656 for more info.

OSBORNE

Osborne National Users Group. Anyone interested in CP/M computer systems is welcome. Free admission. Speakers, questions and answers. Join our group for $10.00 yr. and copy public domain software from library. Meetings at 20630 Lassen St., Chatsworth, 2nd Friday of the month, 7:00 pm. Contact Alicia Fahey, P.O. Box 424, Northridge, CA 91328, or call (818) 709-6202 for more info.

RADIO SHACK/TRS

South Bay Color Computer Club TRS-80, TDP-100, Dragon. Meets third Friday of the month at Mercury Savings, 22939 Hawthorne Blvd., Torrance. Info: Andrew Corlett, 1435 W. 172nd St., Gardena, CA 90247. (213) 538-8394.

The Orange County TRS-80 Group This club is for all TRS users from beginning to expert. Meetings take place the third Sunday of every month at Chapman College, 1:30 pm. For info call 638-7889 after 7:00 pm.

SANYO

Sanyo-MS/DOS Table Top Computers, 14717 South Prairie Ave., Lawndale, CA 90260. (213) 679-1151.

TEXAS INSTRUMENTS

LA 99er Computer Club TI 99/4A support, classes and SIGs, large software library, monthly newsletter. Demonstrations, bulk purchase discounts on hardware, software and books. A good group to join. Meetings at Torrance Public Library, 3031 Torrance Blvd., Torrance, CA. 4th Wednesday of the month, 7 pm. Contact Terrie Masters, 148 S. Maple Drive, Beverly Hills, CA 90212, (213) 271-6930.

The TI-99 Club Yes, there still are a lot of 99's and 99/4a's around. If you own one, then get in touch with these people. They have good info for TI owners. Meetings take place at the Westminster Community Center on the third Thursday of every month at 7:00 pm. For info, call (714) 842-0859.

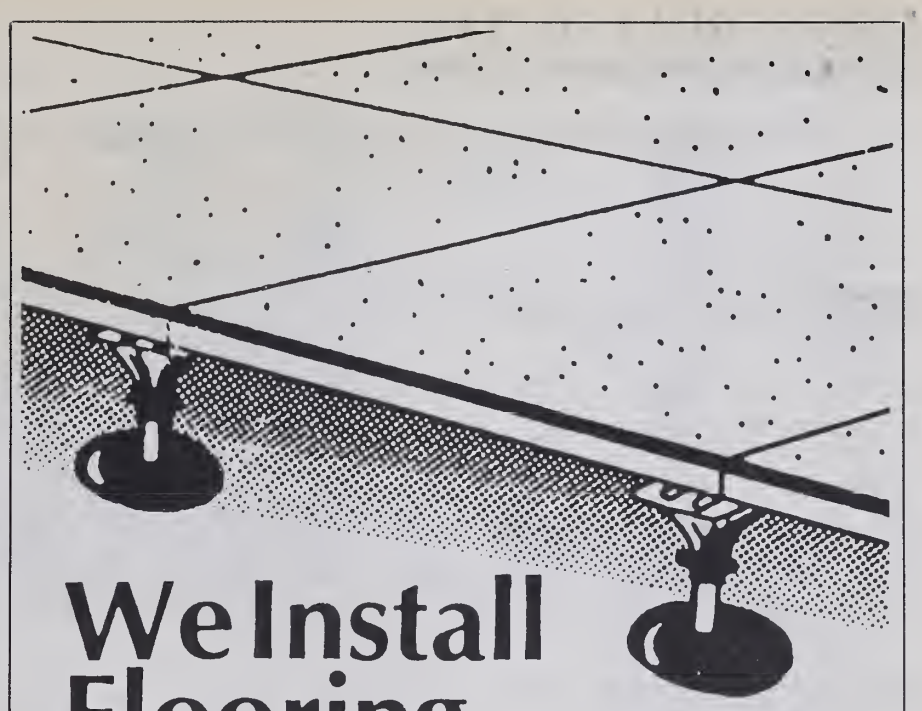
West Side TI Texas Instruments support group forming, users only, to map, trade, barter and exchange ideas, knowledge, and PD software. Meetings 3rd Tuesday of the month. Contact Fred L. Russo for information: 2021 Ocean Ave. #126, Santa Monica, CA 90405, (213) 392-3217.

NATIONAL/INTERNATIONAL

TPUG
World's largest Commodore Users Group. $25 annual membership entitles you to access to library of public domain software for C-64, VIC 20, PET, CBM, SuperPET, B-128. Coming soon — Plus 4, C-16, C-128. New disks added each month. Also TPUG Magazine (10 per year), free access to TPUG's Bulletin Board Modem System, 24 hours, 7 days. TPUG Inc., 1912A Avenue Rd., Suite 1, Toronto, Canada M5M4A1.

Apple Co-op 290 SW 43rd, Renton, WA 98055. (201) 251-5222.

JUG (Jefferson State Computer Users Group). Many SIGs, newsletter. Dues $5.00 year, some SIGs additional. Contact JUG, P.O. Box 457, Gold Hill, OR 97525-0457.



We Install Flooring

For Computer Rooms

NATIONWIDE

•Buy & Sell •New & Used

RAISED FLOOR INSTALLATION INC.

CALL OR WRITE

CA: 408/435-0401 CAL. LIC. 435-286

NJ: 201/778-2444 TELEX: 136479

810 Charcot Avenue, San Jose, CA 95131

disclone

A professional, full-service diskette duplication and software production facility.

INTRODUCING DISCLONE

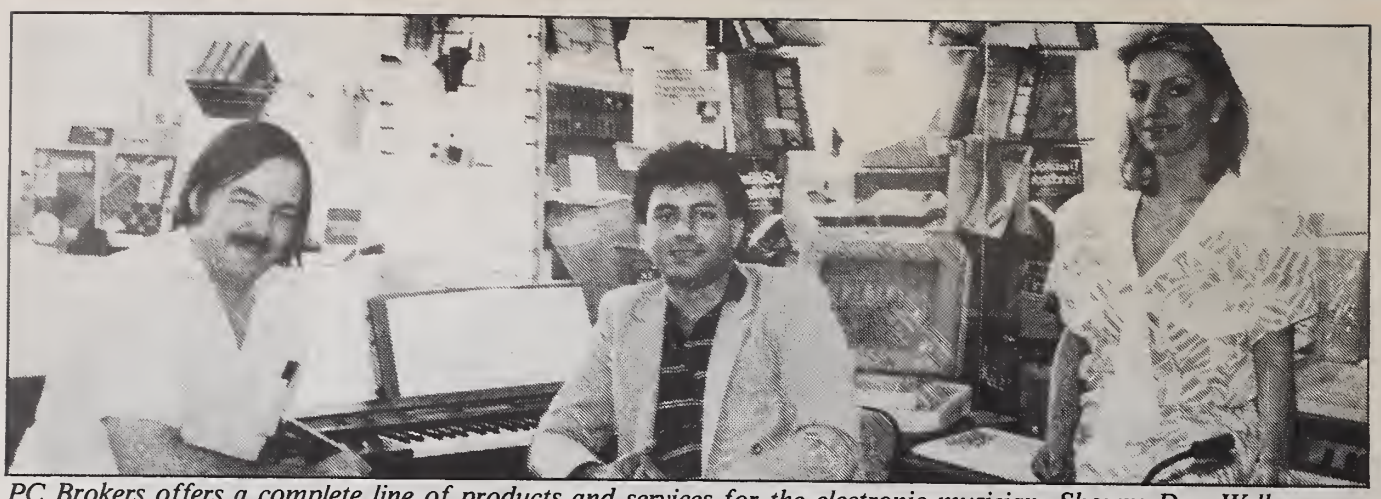
DISCLONE SERVICES
- Diskette Duplication
- Format Conversion
- Copy Protection
- Serialization
- Package Assembly
- Shrink Wrapping
- Drop Shipping
- Custom Packaging

DISCLONE PRODUCTS
- Media
- Custom Binders/Slip Cases
- Custom Labels
- Custom Diskette Sleeves
- Manual Printing
- Diskette Mailers
- Diskette Holders

Only a clone is better than a copy.

Call and Find out Why! (408) 947-1161

1585 N. Fourth St., Suite E, San Jose, CA 95112



PC Brokers offers a complete line of products and services for the electronic musician. Shown: Don Walker, Allen Moshiri, and Nancy Moshiri. Photo: Jeff Rosenfield.

PC Brokers

Allen Moshiri of PC Brokers figures that the world already has enough massive computer chain stores that deal in moving large quantities of merchandise with cut-throat ad campaigns — and the leave the hapless customer stranded when he can't figure something out or develops a problem. Moshiri is carving out his own territory by offering specialized vertical-market products — and then backing what he sells with the kind of service that has made a hype-ridden ad campaign unnecessary. Word of mouth has been PC Brokers' most effective advertising strategy.

"We're *extremely* service and support oriented," says Moshiri. "I'm competitive, but mainly I support the customers. I have records proving that every customer who makes a purchase here will send in 10 customers in the course of a year. One customer sent me 6 in the first week; he had had lots of troubles, but I was there for him. I ask every customer how they heard about me. 90% of them say, so-and-so sent me. Very few say, 'I saw your ad.' "

PC Brokers offers a comprehensive line of computer products for musicians, many utilizing the MIDI interface. The store is the exclusive dealer in the LA area for Octave Plateau products and also stocks Jim Miller's musical software, Roland MIDI interfaces, and other musician-oriented hardware and software. In addition to maintaining a knowledgeable staff of composer-musicians, PC Brokers also works closely with consultants Don Walker of Underscore and Doug Masla of Masla Radio to offer a full range of customer service and support.

Other specialties of PC Brokers include an expanding line of multi-user systems (including Unix-based machines), an ability to create custom-designed systems for a customer's particular needs, and a considerable line of hardware and software products for architects.

Architecture, as it happens, was Moshiri's initial career choice. While working in that field, he happened to take a computer programming course. "It clicked," he says, and he eventually entered the computer field in 1981 as a programmer. He soon discovered, however, that he preferred dealing with people in a sales setting to sitting at a desk, and opened his first store in Reseda in 1983. PC Brokers has been in its present Tarzana location since September 1984. Moshiri's partner David Porter operates another branch of the store in Colorado.

Moshiri is extremely selective about the lines of merchandise the store carries (which include Leading Edge and ITT computers, among others). He is concerned not only with the basic quality of the merchandise itself but with the support the manufacturer offers the customer. He sometimes wins over walk-in customers who ask him to match a competitor's price or product — by refusing, and then explaining why. "I won't sell any hardware or software that I can't get support for," he says. "I'd rather lose a sale than have an unhappy customer."

— Mary Eisenhart

PC Brokers, 18639½ Ventura Blvd., Tarzana, CA 91356, (818) 342-8703.

The Computer Experience

"User friendly" ceases to be an empty buzzword and takes on new meaning at a place called the Computer Experience. This unique PC learning club offers personal instruction, equipment time and other resources for just about anyone who is seriously interested in using a PC. Computer experts at the club introduce members to a variety of hardware and software and help to nurture this tentative acquaintance into an enduring friendship between human and PC.

Alan Cohen, who, along with two partners, opened the club in June of 1984, says the Computer Experience concept was originally patterned along the lines of a racquetball club. "The idea was to share expensive facilities among a lot of people so the cost per person would be reasonable," he explains.

Learning at the Computer Experience is based on each individual's application needs and goals. Members range from jittery beginners who have never before touched a keyboard to more advanced users who are trying to accomplish new and greater things with their PCs and need some help. Different training plans exist to accommodate this considerable range. Members are encouraged to go at their own pace, and are free to schedule time at the facilities seven days a week, using whatever equipment and software they choose.

"Very little of what we do is in a classroom. In concept, our training is very unstructured and allows maximum flexibility for the busy business person," remarks Cohen. Those people who are concerned about having more structure to guide them can have a personalized Computer Proficiency Roadmap prepared, indicating and suggesting a plan of classes and particular software to work with to achieve their ends.

A staff of tutors circulates around the workstations to answer questions and provide assistance as needed. The training staff possesses various backgrounds in computers and programming. All are well versed in applications software and have a genuine desire to help. They see their role as one of reducing user frustration through personal support. "The first requirement in selecting tutors," says Cohen, "is that they be able to communicate with people and answer questions in English."

Because training takes place on an individual basis, users are relieved of the pressure of competition that sometimes accompanies formal group training, and they do not experience the potential embarrassment of having coworkers (or subordinates, in the case of top level executives) watch them make mistakes as they learn. Casual dress, an inviting decor and a low key approach make for a comfortable learning environment.

The Computer Experience is a rich testing ground for those who have not yet invested in a PC or are considering buying a better one. Members have access to IBM PCs, Apples, Macs and other systems located at twenty individual workstations. They also can draw upon a collection of over 400 software packages, spanning a full spectrum of the most popular business and personal applications. By using several different systems for your personal needs, you can decide which one works best for you. Since the training staff members are not trying to sell one system or another, they can provide candid evaluation and advice.

In addition to training, other services to members include ongoing support for users with new and complex applications, a club newsletter and social events which enable users to share their experiences and knowledge, access to a wide selection of computer books and periodicals available in the facility's lounge area and member referrals for discounts on certain equipment or software items. These and additional future services are still evolving as the Computer Experience nears its first anniversary this year. Fees are currently $195.00 for a ten-week membership and $329.00 for a one-year membership, with monthly dues on a continuing basis after the first year. Special family and group plans also exist. At present, the club has one location in Costa Mesa, but plans to open several other locations in the Los Angeles area within the next twelve months. □

—Cynthia Slocum

The Computer Experience, 3033 Bristol, Costa Mesa, CA (714) 432-9000.

Ira Weiss of 800 Software. Photo: Sharon Hall.

800 Software

Three years ago, Ira Weiss was a practicing attorney in San Jose. That is, until he took the advice of a close personal friend who suggested he start a mail-ordering service selling software. "At the time, I didn't even know what a microcomputer was," said Weiss. "But the whole concept sounded more challenging and exciting than being a lawyer."

With the help of his associate Steve Brown, Weiss brought 800-Software into existence and moved the company to San Francisco in the spring of 1982. Weiss says, "Originally, we were operating the business directly from my law office in San Jose, and we still did around $500,000 worth of monthly sales."

After moving 800 Software to the Bay Area, Weiss finally decided to set up his shop in Berkeley in the latter part of 1982. "I chose Berkeley because we were looking for really intelligent people to work for us, which Berkeley has a lot of," reasons Weiss.

The move seems to have paid off. According to Weiss, "Our company now does about $1.6 million in sales a month. One reason for our climbing sales is that we provide software for some big corporations. Our clients include the University of California, General Motors, and the IRS. We have a few overseas accounts, but most of our selling is on the mainland."

What sets 800 Software apart from other software mail-ordering companies is that they were the first to offer these four services: a toll-free 800 number whereby clients could contact them (hence, the name 800 Software), credit-card acceptance, free technical support, and a 100% in-stock track record. "When we first started, we were the only mail-ordering company to offer these four things, but since then others have followed suit," says Weiss.

To stay ahead of the competition, 800 Software has devised a National Account Program. Weiss explains, "Basically, we've hired commissioned sales representatives who do market research to find out a corporation's needs, provide information about the latest software, and promote the product by listing its functions. What we've found through research is that our clients care about price, selling terms (such as accepting credit cards and guarantees), prompt delivery, and technical support in that order."

Weiss says the National Account Program is possible through a system called tele-marketing, which is simply doing business over the phone. He points out, "Our mail-ordering is only twenty percent of our business. The other eighty percent is conducted through tele-marketing. As a result, I think we've been growing faster than the industry itself; I'd say nearly 110 percent a year."

Adds Weiss, "To think neither Steve nor I have a technical background in microcomputers — we just figured out a way to sell the merchandise."

— Tim Tyler

800 Software, 940 Dwight Way, Suite 14, Berkeley, CA 94710, (415) 644-3611; (800) 227-4587.

PROFESSIONAL, STIMULATING
COMPUTER TRAINING CLASSES

Lotus™

SPREADSHEET
DATABASE
GRAPHICS

SPREADSHEET
WORD PROCESSING
GRAPHICS
DATABASE
COMMUNICATIONS

9am-12pm

May 28,29,30,31
$300

June 3,4,5,10,11
$350

CALL 415/573-9675

TO REGISTER IN THESE HANDS ON PC CLASSES

Workstation
COMPUTER RESOURCE CENTER

969-H EDGEWATER BOULEVARD, FOSTER CITY, CALIFORNIA 94404
415/573-9675

We Excel in Computer Service & Repair

When it comes to computer service & repair, **V-TEK** has no competition. With over 10 years of computer experience, it's no wonder why our corporate clients and individual customers are happily satisfied with our performance. Let us satisfy you, too.

COMPUTERS
IBM PC, XT, JR, AT
APPLE II, II+, IIe, IIc
AT&T 6300, 7300
HP
COMPAQ
ITT
Other IBM Compatibles

PRINTERS
QUME
EPSON
OKIDATA
NEC
JUKI
DIABLO
BROTHER
C.ITOH

FLOPPY DRIVES
SIZE:
3½", 5¼", & 8"
DENSITY:
SSSD, SSDD, DSDD
DRIVE ALIGNMENTS
$45
COMPONENT REPAIR
$45/hr

MONITORS
ALL BRAND NAMES
COLOR
GRAPHICS
MONOCHROME

MANY OTHER PRODUCTS SERVICED—CALL FOR INFORMATION • 60 DAYS WARRANTY ON ALL WORK
SERVICE WARRANTY AVAILABLE

UPGRADE YOUR SYSTEM WITH THE VERY BEST!

TEAC FD-55B
• 1/2 height
• 1 yr. warranty
$119

10/20/46 MB HARD DISK
w/controller
$645/895/$CALL

PROFESSIONAL SOFTWARE
Xenix 3.0 . . **$1345**
Informix **$795**
PC/Focus . . **$1350**
dBase III. . . . **$360**
We carry many unix related products!

VIDEO CAPTURE SYSTEM
PC-EYE-Capture anything you see and then store the image in your PC for future use. Create your own slide presentations. This is an unbeatable, cost effective imaging product! Call for demo. It's fantastic!
$CALL

V-TEK PC SERVICE

V-TEK PDO CENTER, SAN JOSE
(408) 238-5587

122 Second Ave., Suite 214, San Mateo, CA 94401
(415) 348-6723

V-TEK PDO CENTER MONTEREY
(408) 373-5568

Disclone

Between 1980 and 1982, Jay Ebeling was an employee at Formaster in San Jose, a company specializing in high-speed duplication equipment for computer disks. He couldn't help but notice the demand for disk-manufacturing equipment and realized some businesses had problems affording the machinery. Ebeling thought if he could provide the service of disk-duplication, it would be a prosperous undertaking. In 1983, the opportunity arose to start a business; he had the capital, and he felt the time for a career change was at hand.

Enter Don Castle, who had been acquainted with Ebeling for ten years. Ebeling approached him about forming a partnership, and by June 17, 1983, the duo had formed Disclone in San Jose.

Although neither Ebeling or Castle had extensive backgrounds relating to disk-manufacturing, Ebeling was familiar with disk-duplication equipment through his experience at Formaster. He said, "I know the hardware, and the rest I've learned so fast because I've had to."

As president of Disclone, Ebeling defines his duties as everything from being involved with the advertising to going to the bank. "I love it," he says enthusiastically. "It keeps my job interesting."

Castle, who is vice-president, basically handles all the sales and marketing responsibilities for Disclone. For him, Disclone is his first experience working in the field of disk-duplication.

Explaining the nature of Disclone's operation, Ebeling says, "We duplicate disks for mixed software faster than anyone in the business. If someone needs 1,000 disks manufacturered, we can have them within a 24-hour period."

He adds, "Generally, our purpose is to serve small to medium sized businesses who need around 1,000 disks duplicated. That way, we can maintain our reputation in turnaround and quality, which is something Don and I both take pride in.

"Disclone also offers other services like serialization and copy production," says Ebeling. Their minimum output of disk-duplication is 25, while the maximum number of disk production hardly ever exceeds 20,000. As Ebeling points out, "Unless it's a video game manufacturer, most businesses we cater to just don't have the need for more than 20,000 disks."

On a monthly basis, Ebeling said, "We carry 60-70,000 disks." Translated into dollars, it means Disclone grosses between 120-125,000 dollars per month.

However, Ebeling revealed that Disclone is working on an account in Atlanta that could double their output. Ebeling explained, "Back in the South and on the East Coast, people are paying too much money for disk-duplication. We could quadruple our business back there. That's the great thing about the Bay Area; most of the nation's software business takes place here. Floppy disks around here are the equivalent of oil in Texas."

Nevertheless, Ebeling believes getting into the disk-duplication business at the present would be difficult anywhere. "The market is competitive and the equipment is expensive," he says. "Fortunately for us, the cost of the equipment was around $75,000 when we started. Nowadays, I don't think it's possible to buy all of the necessary machinery for under $150,000."

So, exactly how does Disclone keep up with the competition? Ebeling replies, "We get a lot of solicit business; people telling us that we're about the sixth place they've tried this week. We simply have to convince them that our business is the one to deal with."

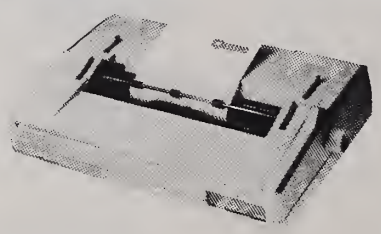
Judging by Disclone's success, it seems as though many customers would agree.

— Tim Tyler

Disclone, 1585 North 4th Street, Suite E, San Jose, CA 95112, (408) 947-1161.

IBM Personal Computer Expansion Unit

Best Prices In The Bay Area



COMPAQ™

COMPUTERS

IBM PC 2 DS DR	$1589
IBM PC 2 DS DR + 10 MB HD	2249
IBM PC 256K 2 DS DR + 20 MB HD	2479
IBM XT 256K	3099
Compaq Portable 256K 2 DR	1999
Compaq 256K 1 DR 1 HD	2579
Compaq Deskpro 640K + 10 MB HD	2549
Compaq Deskpro 640K + 20MB	2799
Compaq Deskpro + 10 MB HD + 10 MB Tape Back-Up (Deskpro IV)	3049
Other Computers	CALL

DISK DRIVES

Teac ½HT DS DD	$ 99
10 MB Internal	599
20 MB Internal	799
10 MB Tape Back-Up	525
45 MB Tape Back-Up	1000
IOMEGA Bernoulle Box 20 MB	2689

MODEMS

Hayes 1200B Internal	$369
Hayes 1200 External	399
Hayes 2400	LOW
Modem Cable	19

PRINTERS

Okidata 192 & 193 & Pacemark 2410	CALL
Okidata 92	$ 349
Okidata 93	555
Epson FX 100	555
QUME 20 Letterpro	415
Toshiba 1340P	649
Toshiba 1351P	1229
Diablo 620/630 API	CALL

HARDWARE

IBM Monochrome Card	$229
IBM Color Card	219
Hercules Graphics Card	299
Hercules Color Card	164
Paradise Modular Graphics Card	274
AST 6 Pack + 64K	249
AST 6 Pack + 384K	349
8087 Math Chip	139
64K RAM Set	19
256K RAM Set	63

MONITORS

PGS MAX-12(E)	$174
PGS HX-12	444
PGS SR-12	589
Amdek 310A	159
Amdek 300	149
Polo Color	379
IBM Monochrome	235

SOFTWARE

DBASE II	$269
DBASE III	379
Framework	379
Samna III	299
Samna +	389
Lotus 1-2-3	289
Lotus Symphany	CALL

SUPPLIES

Verbatim DS DD	$20
Dysan DS DD	29
Surge Protector CPP 12	49
Power Director P2	99
Printer Paper	29

SERVICE CONTRACTS AVAILABLE

BAC

BAY AREA COMPUTERS

(415)864-2555

1005 Market Street
San Francisco, CA 94103

WORLD'S BEST WORD PROCESSOR

ONLY $150

UNIQUE! EASY! POWERFUL!

WRITING

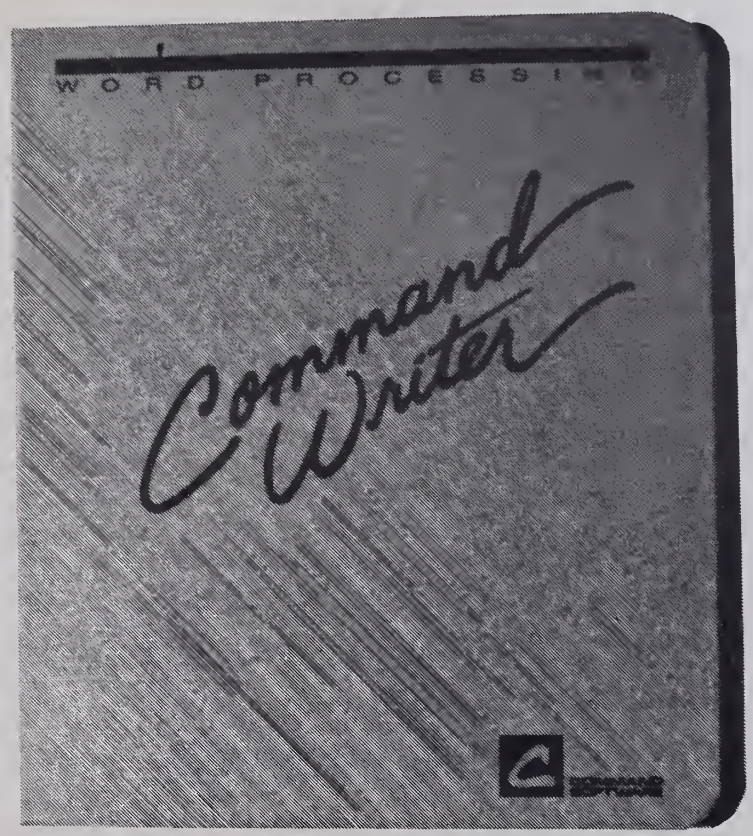
LAW

special features for

BUSINESS

ENGINEERING

SCIENCE



World's best isn't modest; but we believe it's an accurate description of CommandWriter. CommandWriter is unlike any other word processor.

EASY TO USE . . . . EXTENSIVE FUNCTIONALITY . . . . FAST EXECUTION SPEED

IF YOU DON'T LIKE IT . . . WE'LL BUY IT BACK

CALL US FOR MORE DETAILS

A PARTIAL LIST OF FEATURES: Scientific notation; form filling; formula writing; foreign language keyboards; automatic enumeration of text references; automatic line numbering; automatic table of contents; automatic indexing; full style structure support; background printing at full word processing speed; virtual memory; fast speller; multiple, interactive windows; undo; unerase; on line help at any time; in text comments, print / no print; locate format, attributes, user inserted tags; find and replace, many modes; extensive screen and file manipulation; several text move and copy modalities; swap structures; macro capacity; multiple libraries for inserting frequently used references; automatic and soft hypernation; superscripts and subscripts; many word and character attributes; many footnote options; accepts Wordstar and ASCII files; many print modes; dynamic / continual reformatting; user tags; automatic save and backup; . . . much more

800-225-5486
WITHIN CALIF.

TM

800-243-2566
415-861-5080

AMERICAN BUSINESS COMPUTER

768 BAY STREET SAN FRANCISCO, CA 94109

BIG AD SMALLER PRICES

BUSINESS IS BOOMING!

COMPUTERS

LOWEST IN BAY AREA

IBM PC 64k and 1 Floppy	Call
IBM PC 64k and 2 Floppy	Call
IBM PC 256k and 2 Floppy	Call
IBM PC 256k, 1 floppy and 10mb H.D.	Call
IBM PC 256k 2 half ht. & 10mb H.D.	Call
IBM XT 256k	$3394.
IBM PC AT	Call
Sanyo 550, 5 software & monitor	$777.
Sanyo 555-2, 8 software & monitor	$1188.
Sanyo Portable, 2 DR. and color monitor	$2299.

PRINTERS

Okidata 92 P	$350.
Okidata 93 P	$564.
Toshiba P 1340	$729.
Toshiba P 1351	$1298.
Toshiba 351	$1259.
Juki 6100 P	$398.
Juki 6300 P	$694.
Epson RX 80	$229.
Epson RX 80 FT	$279.
Epson FX 80	$399.
Epson FX 100	$575.
Brother 15 XL	$365.
Brother 25 XL	$648.
Brother 35 XL	$888.
Abati 18 cpc Letter Quality	$399.
QUME	Call
Rite Man	Call
Star Micronics SG 10	$258.
Star Micronics SG 15	$430.
Star Micronics SD 10	$388.
Star Micronics SD 15	$516.
Star Micronics SR 10	$560.
Star Micronics SR 15	$690.

I.C.

64k RAMS	$30.
8087	$150.
80287	Call

BOARDS

Hercules Mono	$318.
Hercules Color	$165.
Vitek color and serial port	$220.
AST 64k/384k	$249./$388.
Paradise Modular	$294.
Paradise Multi Display	$344.
Techmar Graphics with PC Paint	$458.
Sigma Maximizer	$249.
Everex Magic	$239.
Everex Graphics	$379.
IBM Mono Card	$228.
Baby Blue	$499.
Techmar Captain 384k	$389.
Sigma Color 450	$695.
PC Peacock	$229.
ALL OTHER BOARDS	Call

MODEMS

Hayes 1200 B/1200	$359./$448.
B12 COM XT with SW	$358.
Carametek 1200 B	$249.
B12 COM B/1200	$349.
Anchor Signalman Express 100% Hayes Compatible	$317

ALL SOFTWARE CHEAPER THAN MAIL ORDER

LEASING ARRANGEO UP TO $1 MILLION AT LOW RATES, CAN INTRODUCE YOUR NEW PRODUCTS TO MARKETS. UPGRADE YOUR PRESENT COMPUTERS WITH 10MB PLUS HARD DRIVES. COMPANY P.D. WELCOME. MC/VISA + 3% CASH PRICES SUBJECT TO STOCK ON HAND. OPEN 7 DAYS.

MONITORS

Amdel 310 A	$165.
PGS Max 12	$178.
PGS Hx 12	$458.
PGS Sr 12	$618.
Quimax Color	$479.
Quimax Mono	$178.
IBM Mono	$249.

DISKETTES

Verbatim SS/DD	$15.00
Verbatim DS/DD	$22.00
Xidex DS/DD	$25.00
Ultra Meganatic SS/DD	$14.99
Ultra Meganatic DS/DD	$19.99
Maxell 96 tpi for AT	$59.00

DRIVES

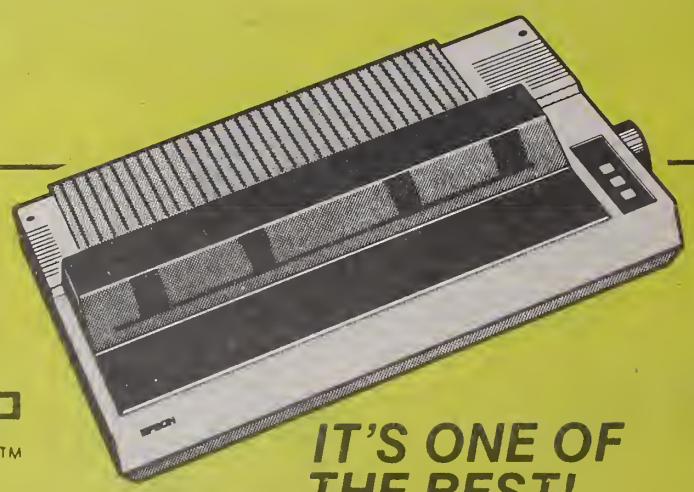
10 mb Internal	$650.
TEAC	$119.
TEAC for AT	$249.
IBM full height 360k	$150.
45 Tape backup	$1235.
20 mb hard disc installed	$1199.
All hard drives and tape backups	Call

All IBM configurations to your satisfaction We deliver the following configurations...

a) Basic system for starting
b) Enhanced systems with 10 and or 20 mb + tape backup
c) Mono/Color Basic or Graphics
d) Networking
e) Total package for computer aided drafting (CAD)
f) IBM PC, XT or AT with 1-300 stations
g) Computer leasing and rentals
h) Financing available for as low as $100.00 per month on approved credit.

EPSON FX-100+™

Dot-Matrix Printer



IT'S ONE OF THE BEST!

Now get SelecType™ type selector and more in a wide carriage printer

- 160 CPS, bidirectional
- 20% faster throughput
- 136 columns wide for spreadsheets and ledgers
- Print modes selectable from front control panel
- Supports LetterType™ board and cut sheet feeder options
- One-year warranty

ADVANCE COMPUTER SYSTEMS

SERVICE and SUPPORT backed up by a Manufacturer with a Proven Record of Excellence.

Sunnyvale	665 Grape Ave.	(408) 732-6200
San Jose	715 N. 1st St.	(408) 293-7860
Fremont	39138 State St.	(415)796-4920
San Francisco	690 Market St.	(415) 397-1311
Walnut Creek	1987 No. Main St.	(415) 945-8011

California 800-272-0045
Outside California 800-621-0854 ext. 905